



SAMSUNG

# User Manual

High Definition Digital Camcorder

[www.samsung.com/register](http://www.samsung.com/register)

HMX-H200BN/HMX-H200SN/HMX-H200LN/HMX-H200RN  
HMX-H203BN/HMX-H203SN/HMX-H203LN/HMX-H203RN  
HMX-H204BN/HMX-H204SN/HMX-H204LN/HMX-H204RN  
HMX-H205BN/HMX-H205SN/HMX-H205LN/HMX-H205RN  
HMX-H220BN/HMX-H220SN/HMX-H220LN/HMX-H220RN

# key features of your full HD camcorder

## High Sensitivity BSI CMOS Sensor

Samsung's newly developed BSI CMOS Image Sensor provides double the light sensitivity of normal CMOS sensors and reduces light loss. You'll get superior pictures with much clearer images under low light conditions.

Normal CMOS



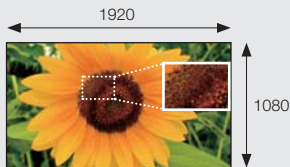
BSI CMOS



## Full HD 1080 Viewing Performance

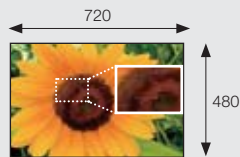
Your camcorder uses advanced H.264 compression technology to give you the clearest video quality. Its full HD resolution displays your pictures more clearly than normal standard (SD) quality pictures.

High-Definition (Full HD)



<Wide Full HD Camcorder (1080i/16:9)>

Standard-Definition (SD)



<Standard Digital Camcorder (480p)>

## SSD (Solid State Drive) for Built-in Storage Media (HMX-H203/H204/H205 only)

Your camcorder uses an advanced SSD technology (based on flash memory) for its built-in memory. The SSD helps the camcorder boot, read data, and operate software much faster than normal HDD (Hard Disk Drives). Also, SSD is very stable, durable, and makes less noise while in operation. It is environmentfriendly because low electric power is required.

## Touch panel adopted

You can play recorded images and set functions by simply tapping on the LCD screen.

## Dual Recording

While recording full HD videos, you can capture still images with the simple push of a button. Capture still images and save them to the storage.

## Shooting Custom Scenes

In Scene mode, appropriate options are pre-set for each kind of scene. Select a scene that matches your shot for easy shooting.



### Shift over wider range of motion with Smart OIS (Optical Image Stabilization)

Smart OIS improves on existing Optical Image Stabilization by allowing the camcorder lens to shift over wider range of motion in wide/tele zoom position. This allows the camcorder to compensate for greater degrees of camcorder shake and delivers a stunning level of image smoothness.

### Magic Finger Focus, Magic Finger Shot

To focus on a subject, just touch the screen and shoot. Your camcorder optimizes the focus for the touched point, giving you professional results with one easy operation. You can also focus on your subject and take a photo with a touch of your finger.



### Smart Auto with Self-Decision on Situation

In Smart Auto mode, your camcorder automatically chooses the appropriate camcorder settings based on the type of scene it detects. Smart Auto mode is helpful if you are not familiar the best camcorder settings for various scenes.

### Time Lapse Recording Catches the Moment

Time lapse recording lets you capture the blooming of flowers or the passage of clouds like the pros. Use this function to make UGC (User-Generated Content) videos, artistic recordings, educational programs or documentary videos.



### Make All Your Recordings with a Simple iVIEW Button!

Press the iView button to preview your storyboards before printing them. It's a quick and easy way to see a digest of what you've recorded without having to view the whole video.

### Video digests and storyboard printing

The Digest/Storyboard function captures 16 still images from the video you select and saves the images to the storage media. You get a quick overview of your video - a real help when you want to review a video quickly.



### Direct Upload of Your Videos to the Web!





Intelli-studio built-in editing software installs directly from your camcorder to your PC when you connect the camcorder to your PC via USB cable. Using Intelli-studio, you can upload your videos and photos to your PC with ease and upload them directly to YouTube, Flickr or Facebook. Sharing videos with your friends and family is simpler than ever.



# before reading this user manual

## SAFETY WARNINGS

What the icons and signs in this user manual mean;

 WARNING	Means that there is a potential risk of death or serious injury.
 CAUTION	Means that there is a potential risk of personal injury or damage to the product.
 CAUTION	To reduce the risk of fire, explosion, electric shock, or personal injury when using your camcorder, follow these basic safety precautions.
	Means hints or referential pages that may be helpful when operating the camcorder.

These warning signs are here to prevent injury to you and others. Please follow them explicitly. After reading this section, keep it in a safe place for future reference.

## PRECAUTIONS

### Warning!

- When using the AC power adapter with your camcorder, connect the adapter to an outlet with protective grounding.
- Do not expose the camcorder battery to direct sunlight, heaters, radiators, fire, or any other source of excessive heat.

### Caution

If you replace the battery with the wrong battery, you can cause an explosion. Replace only with the same battery or an equivalent type.

If you plug the AC adapter into a 240V AC outlet, be sure to use a suitable plug adapter.



# IMPORTANT INFORMATION ON USE

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## Before using this camcorder

- This camcorder records video in H.264 (MPEG4 part10/AVC) format and in High Definition Video (HD-VIDEO) or Standard Definition Video (SD-VIDEO).
- Please note that this camcorder is not compatible with other digital video formats.
- Before recording important video, make a trial recording.  
Play back your trial recording to make sure the video and audio have been recorded properly.
- The recorded contents cannot be compensated for:
  - Samsung cannot compensate for any damage caused when a recording cannot be played back because of a defect in the camcorder or memory card.  
Samsung cannot be responsible for your recorded video and audio.
  - Recorded contents may be lost due to a mistake when handling this camcorder or memory card, etc. Samsung shall not be responsible for compensation for damages due to the loss of recorded contents.
- Make a backup of important recorded data.  
Protect your important recorded data by copying the files to a PC. We also recommend you to copy it from your PC to other recording media for storage. Refer to the software installation and USB connection guide.

- Copyrights: Please note that this camcorder is intended for individual use only.

Data recorded on the storage media in this camcorder using other digital/analog media or devices is protected by the copyright act and cannot be used without permission of the owner of the copyright, except for personal enjoyment. Even if you record an event such as a show, performance or exhibition for personal enjoyment, it is strongly recommended that you obtain permission beforehand.

## About this user manual

Thank you for purchasing this Samsung Camcorder. Please read this user manual carefully before you use the camcorder and keep it handy for future reference. Should your camcorder fail to operate correctly, refer to Troubleshooting.

**This User Manual covers HMX-H200, HMX-H220, HMX-H203, HMX-H204, and HMX-H205 models.**

- The HMX-H203, HMX-H204, and HMX-H205 have a 8GB, 16GB, and 32GB built-in storage media (SSD) respectively but also use memory cards.
- The HMX-H200/H220 do not have built-in storage media (SSD) and use memory cards. Although some features of HMX-H200/H220 models are different, they operate in the same way.
- Illustrations of model HMX-H200 are used in this user manual.
- The displays in this user manual may not be exactly the same as those you see on the LCD screen.
- Designs and specifications of the camcorder and other accessories are subject to change without any notice.

# before reading this user manual

- In this user manual, the icon or symbol in the parenthesis appearing in a description of a submenu item indicates it will appear on the screen when setting the corresponding item.

Ex) Submenu item of “**Video Quality**”

↳ page 54

- “**Super Fine**” (📷): Records in the Super Fine quality. (If set, corresponding icon (📷) will appear on the screen.)

## The following terms are used in this manual:



- ‘Scene’ refers to the point where you press the **Record Start/Stop** button to start recording until you press again to pause the recording.
- The terms ‘photo’ and ‘still image’ are used interchangeably with the same meaning.

For Open Source License information, refer to the “OpenSource-H200.pdf” in the provided CD-ROM.

## Notes regarding trademarks

- All the trade names and registered trademarks mentioned in this manual or other documentation provided with your Samsung product are trademarks or registered trademarks of their respective holders.
- The SD logo is a trademark. The SDHC logo is a trademark.
- Microsoft®, Windows®, Windows Vista® and DirectX® are either registered trademarks or trademarks of the Microsoft Corporation in the United States and/or other countries.
- Intel®, Core™, and Pentium® are the registered trademarks or trademarks of the Intel Corporation in the United States and other countries.
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- YouTube is a trademark of Google Inc.
- Flickr™ is a trademark of Yahoo.
- Facebook is a trademark of Facebook Inc.
- HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.
- Adobe, the Adobe logo, and Adobe Acrobat are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.
- All the other product names mentioned here in may be the trademark or registered trademarks of their respect companies. Furthermore, “TM” and “®” are not mentioned in each case in this manual.

# important safety instructions

	<b>CAUTION</b> RISK OF ELECTRIC SHOCK DO NOT OPEN	
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		



This symbol indicates that dangerous voltage consisting a risk of electric shock is present within this unit.



This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

## Warning

To Reduce The Risk Of Fire Or Electric Shock, Do Not Expose This Apparatus To Rain Or Moisture.

## Caution

Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

To disconnect the apparatus from the mains, the plug must be pulled out from the mains socket, therefore the mains plug shall be readily operable.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachment/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus.  
When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



# important safety instructions

- 15.** Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

**16. VENTILATION:**

Slots and openings in the cabinet are provided for ventilation to ensure reliable operation of the CAMCORDER and to protect it from overheating. These openings must not be blocked or covered. Never place your CAMCORDER on a bed, sofa, rug, or other similar surface: on or near a radiator or heat register. This CAMCORDER should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

**17. POWER SOURCES:**

The CAMCORDER should be operated only from the type of power source indicated on the label. If you are not sure of the type of power supply at your home, consult your appliance dealer or local power company. A CAMCORDER is intended to be operated from battery power, or other sources, refer to the operating instructions.

**18. GROUNDING OR POLARIZATION:**

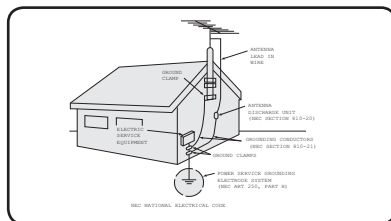
This CAMCORDER may be equipped with either a polarized 2-wire AC line plug (a plug having one blade wider than the other) or a 3-wire grounding type plug, a plug having a third (grounding) pin. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact your electrician to replace your outlet. Do not defeat the safety purpose of the polarized plug.

**19. POWER-CORD PROTECTION:**

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords or plugs, convenient receptacles, and the point where they exit from the unit.

**20. OUTDOOR ANTENNA GROUNDING:**

CAMCORDER, be sure the antenna or cable system is grounded to provide some protection against voltage surges and built-up static charges, Section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire and supporting structure, grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding to conductors, location of antenna-discharge unit, connection to grounding electrodes and requirements for the grounding electrode. See figure below.



**21. LIGHTNING:**

For added protection of this CAMCORDER during a lightning storm or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the CAMCORDER due to lightning and powerline surges.

**22. POWER LINES:**

An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

**23. OVERLOADING:**

Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

**24. OBJECTS AND LIQUIDS:**

Never push objects of any kind into this CAMCORDER through openings as they may touch dangerous voltage points or short out a part that could result in a fire or electric shock. Never spill liquids of any kind onto the CAMCORDER. Should spillage occur, unplug unit and have it checked by a technician before use.

**25. SERVICING:**

Do not attempt to service this CAMCORDER yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

**26. DAMAGE REQUIRING SERVICE:**

Unplug this CAMCORDER from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- a. When the power-supply cord or plug is damaged.
- b. If any liquid has been spilled onto, or objects have fallen into the CAMCORDER.
- c. If the CAMCORDER has been exposed to rain or water.
- d. If the CAMCORDER does not operate normally by following the operating instructions, adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the CAMCORDER to its normal operation.
- e. If the CAMCORDER has been dropped or the cabinet has been damaged.
- f. When the CAMCORDER exhibits a distinct change in performance, this indicates a need for service.

**27. REPLACEMENT PARTS:**

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer and having the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

**28. SAFETY CHECK:**

Upon completion of any service or repairs to this CAMCORDER, ask the service technician to perform safety checks to determine that the CAMCORDER is in safe operating order.


**29.** To prevent damage which may result in fire or shock hazard, do not expose this appliance to rain or moisture.**30.** If this power supply is used at 240V ac, a suitable plug adaptor should be used.

# important safety instructions

## USER INSTALLER CAUTION:

Your authority to operate this FCC certified equipment could be voided if you make changes or modifications not expressly approved by this party responsible for compliance to part 15 FCC rules.

## NOTE:

 LAMP(S) INSIDE THIS PRODUCT CONTAIN MERCURY AND MUST BE RECYCLED OR DISPOSED OF ACCORDING TO LOCAL, STATE OR FEDERAL LAWS. For details see [lamprecycle.org](http://lamprecycle.org), [eiaa.org](http://eiaa.org), or call 1-800-Samsung (7267864)

## CALIFORNIA USA ONLY

**This Perchlorate warning applies only to primary CR (Manganese Dioxide) Lithium coin cells in the product sold or distributed ONLY in California USA**

**“ Perchlorate Material - special handling may apply, See [www.dtsc.ca.gov/hazardouswaste/perchlorate](http://www.dtsc.ca.gov/hazardouswaste/perchlorate).”**

## NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
  - Increase the separation between the equipment and receiver.
  - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  - Consult the dealer or an experienced radio/TV technician for help and for additional suggestions.
- The user may find the following booklet prepared by the Federal Communications Commission helpful: “How to Identify and Resolve Radio-TV Interference Problems.” This Booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.

## FCC Warning

The user is cautioned that changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment. This device complies with Part 15 of FCC Rules.

Operation is subject to the following two conditions;

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

# safety information

The safety precautions illustrated below are to prevent personal injury or material damages. Heed all instructions carefully.



## WARNING

Means that there is a potential risk of serious personal injury.



## CAUTION

Means that there is a potential risk of personal injury or damage to the product



Prohibited action.



Do not disassemble the product.



Unplug from the power supply.



Do not touch the product.



This precaution must be kept.



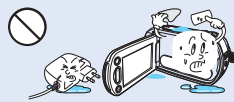
## WARNING



Do not overload outlets or extension cords as this may result in abnormal heat or fire.



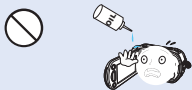
Using the camcorder at temperatures over 60°C (140°F) may result in fire. Keeping the battery at a high temperature may cause an explosion.



Do not allow water or metal and inflammable matter to enter the camcorder or AC power adaptor. Doing so may pose a fire hazard.



No sand or dust! Fine sand or dust entering the camcorder or AC power adaptor could cause malfunctions or defects.



No oil! Oil entering the camcorder or AC power adaptor could cause electric shock, malfunctions or defects.



Do not aim the camcorder directly into the sun. Doing so could cause eye injuries, as well as lead to malfunctioning of internal parts of the product.



Do not bend the powercord or damage the AC power adaptor by pressing on it with a heavy object. There may be a risk of fire or electric shock.

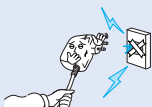


Do not disconnect the AC adaptor by pulling on its power-cord, as this could damage the power-cord.



Do not use the AC adaptor if it has damaged, split or broken cords or wires. Doing so may cause fire or electric shock.

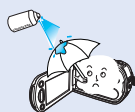
# safety information



Do not connect the AC adaptor unless the plug can be fully inserted with no part of the blades exposed.



Do not dispose of battery in a fire as it may explode.



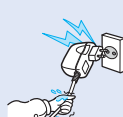
Never use cleaning fluid or similar chemicals. Do not spray cleaners directly on the camcorder.



Keep the camcorder away from water when used near the beach or pool or when it rains. There is a risk of malfunction or electric shock.



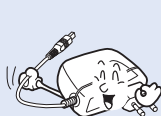
Keep the used lithium battery or memory card out of the reach of children. If the lithium battery or memory card is swallowed by children, consult physician immediately.



Do not plug or unplug the power cord with wet hands. There is a risk of electric shock.



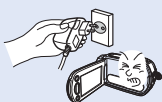
Keep the power-cord unplugged when not in use or during lightning storms. There is a risk of fire.



When cleaning the AC adaptor, unplug the power-cord. There is a risk of malfunction or electric shock.



If the camcorder makes an abnormal sound, or smell or smokes, unplug the power-cord immediately and request service from a Samsung service center. There is a risk of fire or personal injury.



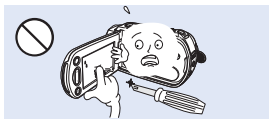
If the camcorder malfunctions, immediately detach the AC adaptor or battery from the camcorder. There is a risk of fire or injury.



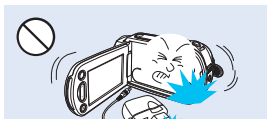
Do not attempt to disassemble, repair, or reform the camcorder or the AC adaptor to avoid a risk of fire or electric shock.



# ! CAUTION



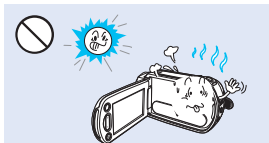
Do not press the surface of the LCD with force, or hit it with a sharp object. If you push the LCD surface, display unevenness may occur.



Do not drop or expose the camcorder, battery, AC adaptor or other accessories to severe vibrations or impact. This may cause a malfunction or injury.



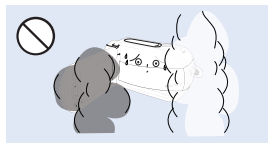
Do not use the camcorder on a tripod (not supplied) in a place where it is subject to severe vibrations or impact.



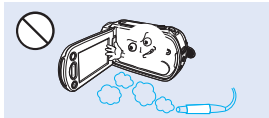
Do not use the camcorder near direct sunlight or heating equipment. This may cause a malfunction or injury.



Do not leave the camcorder in a closed vehicle for a long time, where the temperature is very high.



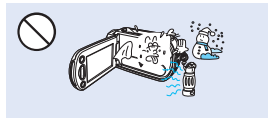
Do not expose the camcorder to soot or steam. Thick soot or steam could damage the camcorder case or cause a malfunction.



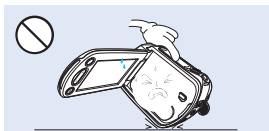
Do not use the camcorder near dense exhaust gas generated by gasoline or diesel engines, or corrosive gas such as hydrogen sulphide. Doing so may corrode the external or internal terminals, disabling normal operation.



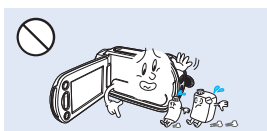
Do not expose the camcorder to insecticide. Insecticide entering the camcorder could fail the product to operate normally. Turn the camcorder off and cover it with vinyl sheet, etc. before using insecticide.



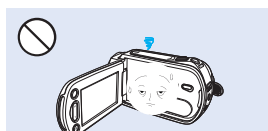
Do not expose the camcorder to sudden changes in temperature or a humid place. There is also a risk of defect or electric shock when using outdoors during lightning storms.



Do not place the camcorder with the open LCD screen down



Do not wipe the camcorder body with benzene or thinner. The exterior coating could peel off or the case surface could deteriorate.

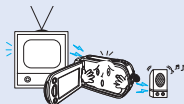


Do not leave the LCD screen open when not using the camcorder.

# safety information



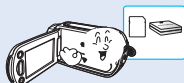
Do not hold the camcorder by the LCD monitor when lifting it. The LCD screen could detach and the camcorder may fall.



Do not use the camcorder near TV or radio: This could cause noise on the TV screen or to radio broadcasts.



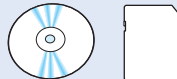
Do not use the camcorder near strong radio waves or magnetism such as speakers and a large motor. Noise could enter video or audio that are being recorded.



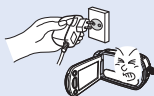
Use Samsung-approved accessories only. Using products from other manufacturers may cause overheating, fire, explosion, electric shock or personal injuries caused by abnormal operation.



Place the camcorder on a stable surface and a place with ventilation openings.



Keep important data separately. Samsung is not responsible for data loss.



Use the mains plug where it can be readily operable. If any problem occurs with the product, the mains plug must be removed to disconnect power completely. Turning off the power button on the product does not completely disconnect the power.

# contents

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## **QUICK START GUIDE**

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07 You can record videos in H.264 format!

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# quick start guide

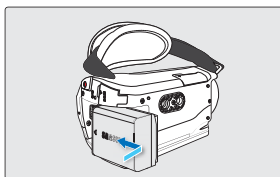
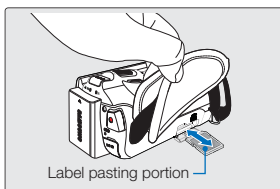
This quick start guide introduces the basic operation and features of your camcorder. See the reference pages for more information.

## You can record videos in H.264 format!

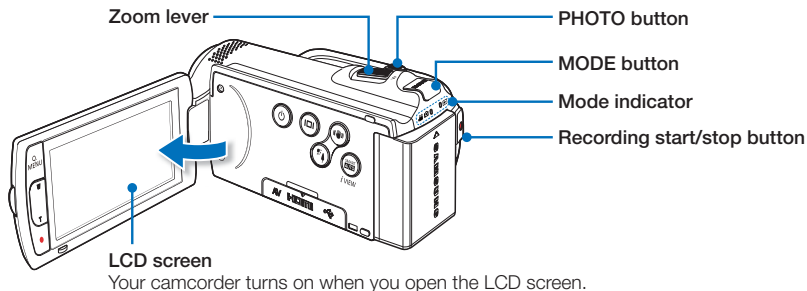
You can record videos in H.264 format that is convenient to email and share with your friends and family. You can also take photos with your camcorder.

### STEP1: Get ready

1. Insert a memory card.
  - You can use commercially available SDHC (SD High Capacity) or SD memory cards with this camcorder.
  - Set the appropriate storage media.  
↳ page 27 (HMX-H203/H204/H205 only)
2. Attach the battery to the camcorder. ↳ page 16
  - Align the battery with the indicator (▲) on the battery compartment, and then push the battery in the direction of the arrow.
3. Charge the battery fully. ↳ page 17
  - The battery is fully charged when the CHG (charging) indicator light turns green.



### STEP2: Record with your camcorder



# quick start guide

## Recording videos with HD (high definition) image quality

Your camcorder uses advanced H.264 compression technology give you the clearest video quality. ➡page 54

1. Open the LCD screen.
  - Your camcorder turns on when you open the LCD screen.
2. Press the **Recording start/stop** button.
  - To stop recording, press the **Recording start/stop** button.



## Recording photos

1. Open the LCD screen.
2. Press the **PHOTO** button lightly to adjust the focus, then press it fully (a shutter click sounds).



**Tip** Using 'Quick On STBY' by opening/closing the LCD screen. ➡page 82

When you close the LCD screen during standby, your camcorder goes to Quick On STBY mode (power saving mode). You can start recording quickly when you open the LCD screen.







- Your camcorder is compatible with H.264 format "[HD]1080/60i" which provides highly detailed, beautiful images.
- The default setting is "[HD]1080/60i". You can also record with SD (standard definition) video quality.
- You can also take photos while recording videos. ➡page 36



## STEP3: Play back videos or photos

### Viewing videos or photos on the LCD screen

You can find your desired recordings quickly by using the thumbnail index view.

1. Touch the Play () tab on the screen in STBY mode.
2. Touch the thumbnail ( /  / ) tab, then touch the desired image.



### Viewing on a high definition TV

- You can enjoy HD (high definition) videos. ➡ pages 102~103



You can also play back videos on a SD (standard definition) image quality TV.  
➡ pages 104~105

## STEP4: Save recorded videos or photos

**Simple and fun! Enjoy the various features of Intelli-studio on your Windows computer.**

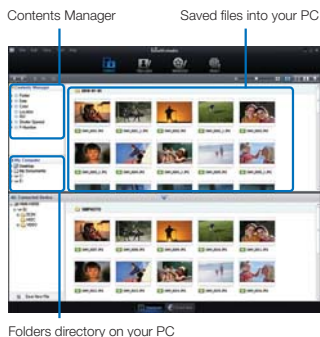
Using the Intelli-studio program built into your camcorder, you can import videos/photos into your computer and edit or share the videos/photos with your friends and family. For details, see pages 110~114.



# quick start guide

## Importing and viewing videos/photos from the camcorder to your PC

1. Launch the Intelli-studio program by connecting the camcorder to your PC via USB cable.
  - A new file saving screen appears with the Intelli-studio main window. Click **"Yes"**, the uploading procedure will start.
2. The new files are saved to your PC and registered to **"Contents Manager"** on the Intelli-studio program.
  - You can arrange the files by different options such as Date, Location, etc.
3. You can double-click on the file you would like to start playback.



## Sharing the videos/photos onto YouTube/Flickr/FaceBook

Share your contents with the world by uploading videos and photos directly to a web site with one click.

Click **"Share"** → **"Upload"** tab on the browser. ➡ page 113



The Intelli-studio runs automatically when you connect the camcorder to a Windows computer if you have specified **"PC Software: On"** in the Settings menu. ➡ page 83

## STEP5: Delete videos or photos

If the storage media is full, you cannot record new videos or photos. Delete videos or photos that you have saved to a computer from the camcorder's storage media. Then you can record new videos or photos on newly freed up space.

Touch the **Play** (⏮) tab → **Menu** (MENU) tab → **"Delete"** on the LCD screen. ➡ page 97

# getting to know the camcorder

## WHAT'S INCLUDED WITH YOUR CAMCORDER

Your new camcorder comes with the following accessories. If any of these items is missing from your box, call Samsung's Customer Care Center.



Model name	Internal memory	Color	Memory card slot	LCD screen	Lens
HMX-H200BN/HMX-H200SN HMX-H200LN/HMX-H200RN HMX-H220BN/HMX-H220SN HMX-H220LN/HMX-H220RN	-	Black/ Silver/ Blue/ Red	1 slot	Color / Touch panel	20x (Optical) 200x (Digital)
HMX-H203BN/HMX-H203SN HMX-H203LN/HMX-H203RN	8GB				
HMX-H204BN/HMX-H204SN HMX-H204LN/HMX-H204RN	16GB				
HMX-H205BN/HMX-H205SN HMX-H205LN/HMX-H205RN	32GB				

- Although some features of the models are different, they operate in the same way.

## Checking your accessories



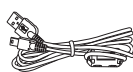
**Battery**  
(IA-BP210E)  
(AD43-00196A)



**AC power adaptor**  
(AA-MA9 type)  
(AD44-00151A)



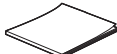
**Component/  
AV cable**  
(AD39-00142D)



**USB cable**  
(AD39-00169A)



**User manual CD**  
(AD46-00302A)



**Quick start guide**  
(AD68-04673A)

### Optional accessories



**Mini HDMI cable**  
(AD39-00159A)



**Memory card**  
(1109-001415)



**Carrying case**  
(AD69-00929A)

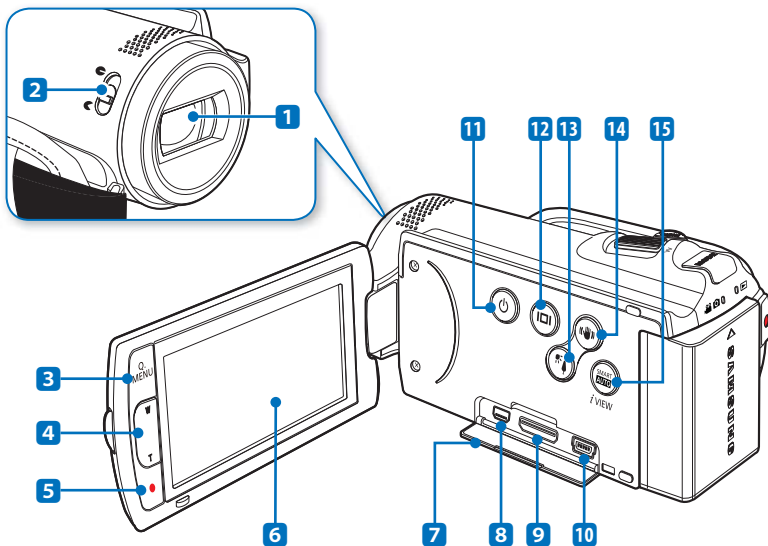


- The exact appearance of each item may vary by model.
- The contents may vary depending on the sales region.
- Parts and accessories are available for purchase at your local Samsung dealer. SAMSUNG is not responsible for reduced battery life time or malfunctions caused by any unauthorized use of accessories such as the AC power adaptor or the batteries.
- A memory card is not included. See page 29 for memory cards compatible with your camcorder.
- Your camcorder includes the user manual CD and printed quick start guide.

# getting to know the camcorder

## LOCATION OF CONTROLS

### Front/Left



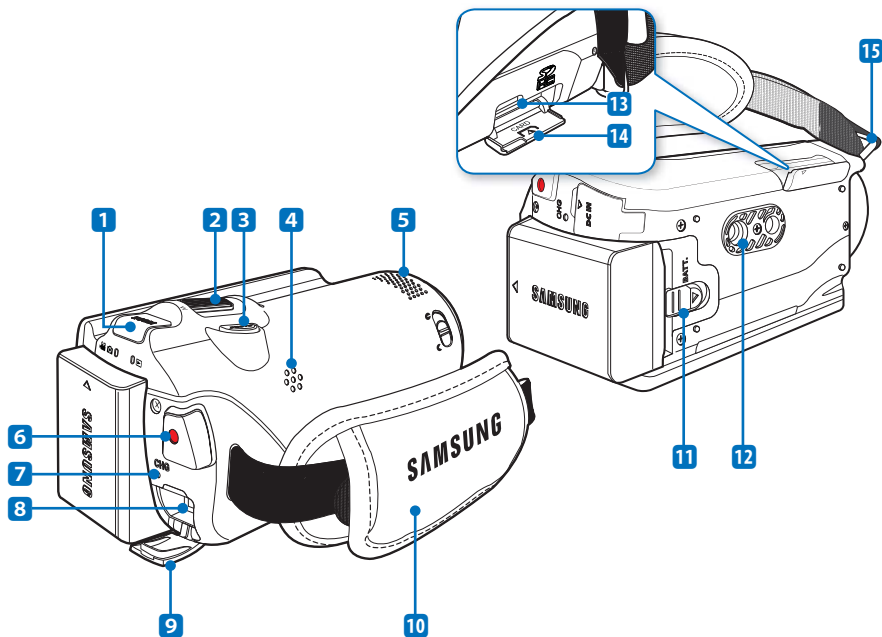
- |   |                               |
|---|-------------------------------|
| 1 | Lens                          |
| 2 | Lens open/close switch        |
| 3 | Q.MENU button                 |
| 4 | Zoom (W/T) button             |
| 5 | Recording start/stop button   |
| 6 | TFT LCD screen (Touch screen) |
| 7 | Jack cover (AV HDMI )         |
| 8 | Component/AV jack             |

- |    |                                  |
|----|----------------------------------|
| 9  | HDMI jack                        |
| 10 | USB jack                         |
| 11 | Power (⏻) button                 |
| 12 | Display (⏮) button               |
| 13 | Backlight (⏭) button             |
| 14 | Anti-shake (OIS) (⏮) button      |
| 15 | SMART <b>AUTO</b> / iVIEW button |



During a recording, be careful not to block the internal microphone and lens.

## Rear/Right/Top/Bottom



- 1 MODE button / Mode indicator  
 [Video/Photo icon]: Record mode (Video/Photo)  
 [Play icon]: Play mode

2 Zoom (W/T) lever

3 PHOTO button

4 Built-in speaker

5 Internal microphone

6 Recording start/stop button

7 Charging (CHG) indicator

8 DC IN jack

9 Jack cover

10 Grip belt

11 Battery release switch

12 Tripod receptacle

13 Memory card slot

14 Memory card cover

15 Grip belt hook

# getting to know the camcorder

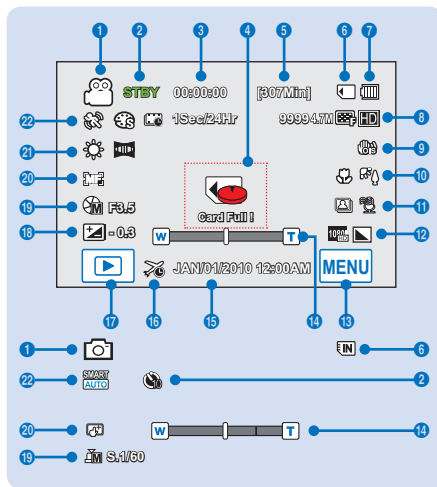
## IDENTIFYING THE SCREEN DISPLAYS

The available functions vary depending on the operation mode you've selected and different indicators appear depending on the setting values.

### PRECHECK!

- This On Screen Display (OSD) is shown in the record (📹📷) mode only.
- Select the record mode by pressing the **MODE** button. ➡ page 23

## Record mode






- 1 Record mode (Video/Photo)
- 2 Operating status (STBY (standby) / (recording)) / Self Timer\*
- 3 Time counter (video recording time)
- 4 Warning indicators and messages
- 5 Remaining recordable time
- 6 Storage media (Memory card or internal memory (HMX-H203/H204/H205 only))
- 7 Battery info. (remaining battery level)
- 8 Image counter (total number of recordable photo images), Photo Resolution, Video Quality, Video Resolution
- 9 Anti-shake (OIS)
- 10 Tele Macro\*, Back light
- 11 Cont. Shot, Wind cut
- 12 Analog TV Out (when component/AV cable is connected), Photo sharpness
- 13 Menu tab
- 14 Optical zoom / Digital zoom bar
- 15 Date/Time
- 16 Time Zone (visit)
- 17 Play tab
- 18 EV (Exposure Value)\*
- 19 Manual aperture\* / Manual shutter\*
- 20 Manual focus\* / Touch Point\*
- 21 White Balance, Fader\*
- 22 iSCENE / Smart Auto, Digital Effect, Time Lapse REC\*

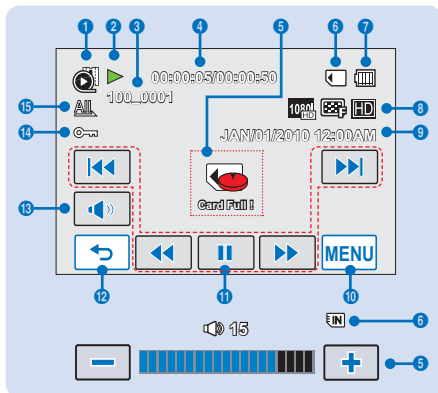


- Settings of functions marked with \* are not retained when the camcorder is turned off.
- The on-screen indicators are based on an 32GB SDHC memory card capacity.
- The above screen is illustrated for explanation purposes and may differ from the actual display.
- For warning indicators and messages, see pages 117~120
- The above illustrated items and their positions can be changed without notice for the purpose of better performance.
- The total number of recordable photos is counted based on available space on the storage media.
- The maximum number of recordable photo images on the On Screen Display (OSD) is "9999."
- This camcorder provides one record mode which combines the video and photo record modes. You can easily record videos or photos in the same mode without having to change it.

## PRECHECK!

- This On Screen Display (OSD) is shown in video play (HD/SD) mode only.
- Select the Play () tab on the LCD screen to select the play mode. ➔ page 23

## Video play mode





- 1 Video play mode
- 2 Operating status (play/pause)
- 3 File name (file number)
- 4 Playback time/recorded time
- 5 Warning indicators and messages/Volume control
- 6 Storage media (Memory card or internal memory (HMX-H203/H204/H205 only))
- 7 Battery info. (remaining battery level)
- 8 Analog TV Out (when component/AV cable is connected), Video Quality, Video Resolution
- 9 Date/Time
- 10 Menu tab
- 11 Playback control tabs (skip/search/play/pause/slow playback)
- 12 Return tab
- 13 Volume tab
- 14 Protect
- 15 Play Option

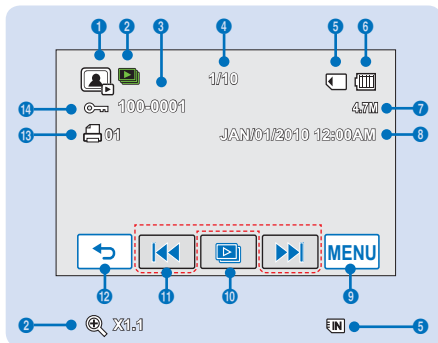


- The playback control tabs disappear a few seconds after a video playback. Touch anywhere on the screen to display them again.
- For warning indicators and messages, see pages 117~120

## PRECHECK!

- This On Screen Display (OSD) is shown in photo play () mode only.
- Select the Play () tab on the LCD screen to select the play mode. ➔ page 23

## Photo play mode

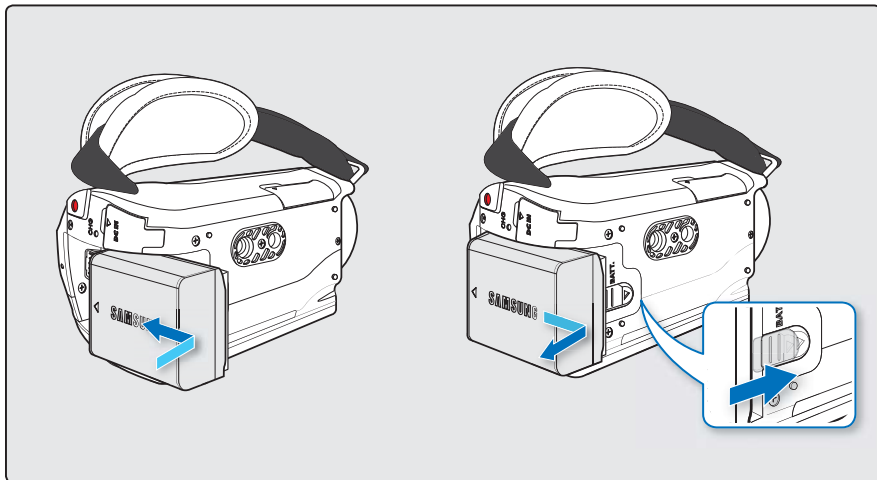


- 1 Photo play mode
- 2 Slide show/Playback zoom (X1.1 ~ X8.0)
- 3 File name (file number)
- 4 Image counter (current image/total number of recorded images)
- 5 Storage media (Memory card or internal memory (HMX-H203/H204/H205 only))
- 6 Battery info. (remaining battery level)
- 7 Photo Resolution
- 8 Date/time
- 9 Menu tab
- 10 Slide show playback tab
- 11 Previous image, Next image tab
- 12 Return tab
- 13 Print Mark
- 14 Protect

# getting started

## USING THE BATTERY

Purchase extra batteries to allow continuous use of your camcorder.



### Attaching the battery

Align the battery with the indicator (▲) on the battery compartment, and then push the battery in the direction of the arrow.

### Detaching the battery

Slide the **Battery release** switch and pull out the battery.

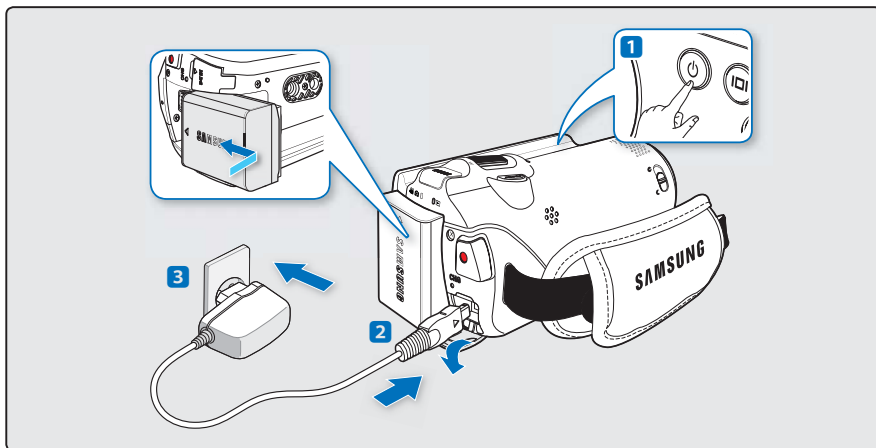
- Gently slide the **Battery release** switch in the direction as shown in the figure.



- If you use batteries from other manufacturers, there is a danger of overheating, fire, or explosion.
- Samsung is not responsible for problems that are caused by using unapproved batteries.
- Detach the battery from the camcorder with care to prevent it from falling.



## Charging the battery with the AC power adaptor



### PRECHECK!

Before starting the following procedure, make sure that the battery is attached in your camcorder.

1. Press the **Power** (⏻) button to turn off the camcorder and then close the LCD screen.  
→ page 21
2. Open the jack cover and connect the AC power adaptor to the DC IN jack.
3. Connect the AC power adaptor to a wall socket.
  - The charging (CHG) indicator lights up and charging starts. After the battery is fully charged, the charging (CHG) indicator turns green.

### Charging using the USB jack and a computer

You can also charge the camcorder through its USB jack.

1. Press the **Power** (⏻) button to turn off the camcorder and then close the LCD screen.
  - The camcorder can be charged through its USB jack only when the camcorder is turned off.
2. Connect the included USB cable to the USB jack on the camcorder and to a USB jack on a running PC.
  - The charging (CHG) indicator lights up and charging starts. After the battery is fully charged, the charging (CHG) indicator turns green.



- The battery is not charged when in power saving mode, which may keep the mode indicator on or flashing. Start charging the battery after turning off the camcorder by pressing the **Power** (⏻) button.
- We recommend you have one or more additional batteries to allow continuous use of your camcorder.

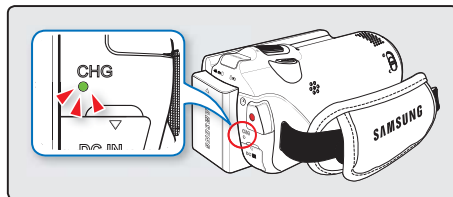
# getting started

## CHECKING THE BATTERY STATE

You can check the charging state and remaining battery capacity.





### To check the charging state

The color of the LED indicates the power or charging state.









#### Charging (CHG) indicator

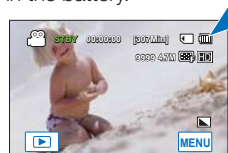
The color of the charging indicator shows the charging state.

Charging state	Charge			
	Fully discharged	Charging	Fully charged	Error
LED color	 (Red)	 (Orange)	 (Green)	 (Red blink)

### Battery level display

The battery level display shows the amount of battery power remaining in the battery.

Battery level indicator	State	Message
	Fully charged	-
	25~50% used	-
	50~75% used	-
	75~95% used	-
	95~98% used	-
	Exhausted (flickers): The device will soon turn off. Change the battery as soon as possible.	-
-	The device will be forced to turn off after 3 seconds.	"Low Battery"





- The figures below are based on a fully charged battery at a normal temperature. Low ambient temperature may affect the use time.
- Battery capacity decreases over time and through repeated use. Keep the camcorder turned off while not operating it.
- Store the battery separately when finished charging or when not using it for a long time. This will help extend the life of the battery.

### Available running time for the battery

Battery type	IA-BP210E	
Charging time	Approx. 180min.	
Video resolution	HD	SD
Continuous recording time	Approx. 120 min.	Approx. 130 min.
Playback time	Approx. 160 min.	Approx. 180 min.

(Unit: minutes.)

- Charging time: Approximate time in minutes required to fully charge a completely exhausted battery.
- Recording/Playback time: Approximate time available when you have fully charged the battery. 'HD' stands for high definition image quality and 'SD' stands for standard image quality.

### About the battery

- The battery should be recharged in an environment that is between 32°F (0°C) and 104°F (40 °C). Exposure to temperatures below 32°F (0°C), reduces the battery's usage time and may cause it to stop working. If this happens, place the battery in your pocket or other warm, protected place for a short time, then re-attach it.
- Do not put the battery near any heat source (i.e. fire or a heater).
- Do not disassemble, apply pressure to, or heat the battery.
- Do not allow battery terminals to be short-circuited. This may cause leakage, generate heat, or cause a fire.

### Maintaining the battery

- The recording time is affected by temperature and environmental conditions.
- We recommend using only the battery type that came with your camcorder. This battery type is available from your Samsung retailer. When the battery reaches the end of its life, please contact your local dealer. The batteries must be dealt with as chemical waste.
- Make sure that the battery is fully charged before starting to record.
- To preserve battery power, keep your camcorder turned off when you are not operating it.
- Even when the power is switched off, the battery will still discharge if it is left attached to the camcorder. We recommend that you remove the battery from the camcorder when not using it.
- If the battery is not used for a long time, fully charge the battery, and then use the charge up on your camcorder once per 6 months to keep the battery functioning properly. To store the battery, remove it from your camcorder and put it in a cool, dry place.

# getting started

---

## About the battery life

- Battery capacity decreases over time and through repeated use. If decreased usage time between charges becomes significant, it is probably time to replace the battery with a new one.
- Each battery's life is affected by storage, operating, and environmental conditions.

## About the running time

- Times listed are measured when using the camcorder at 77°F (25°C). As the environmental temperature and conditions vary, the actual battery time may differ from the approximate times given in the table.
- The recording and playback time may be shorter, depending on the conditions under which you use your camcorder. For example, in actual recording, the battery will discharge 2-3 times faster than listed if you use Record start/stop and Zoom frequently, and use playback to view your recordings. Assume that the recordable time with a fully charged battery is between 1/2 and 1/3 of the time in the table, so have enough batteries to allow for the time you are planning to record on the camcorder.
- The recording and playback time will be shorter when you use your camcorder in low temperatures.

## On the battery

- The charging (CHG) indicator blinks during charging, or battery Info will not be correctly displayed under the following conditions:
  - The battery is not attached correctly.
  - The battery is damaged.
  - The battery is worn-out. (For the battery information only)

## Using an AC power source

---

We recommend that you use the AC power adaptor to power the camcorder from a household AC outlet when you set function settings, play back, or edit images, or use it indoors. Make the same connections as you do when charging the battery ➡ page 17

## On the AC power adaptor

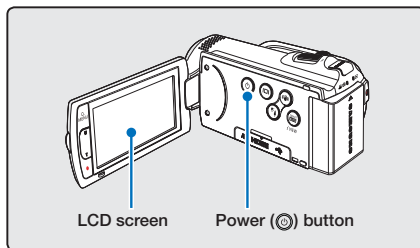
- Use a nearby wall outlet when using the AC power adaptor. Disconnect the AC power adaptor from the wall outlet immediately if any malfunction occurs while using your camcorder.
- Do not use the AC power adaptor in a narrow space, such as between a wall and furniture.
- Do not short-circuit the DC plug of the AC power adaptor or battery terminals with any metallic objects. This may cause a malfunction.
- Even if your camcorder is turned off, AC power is still supplied to it while connected to the wall outlet via the AC power adaptor.

# basic operation of the camcorder

If you need to use camcorder for the extended time, setting the following functions prevents unnecessary energy consumption.

## TURNING YOUR CAMCORDER ON/OFF

1. Open the LCD screen to turn on the camcorder.
  - Your camcorder turns on automatically when you open the LCD screen.
2. To turn off the camcorder, press the **Power** (⏻) button for about one second.
  - Closing the LCD screen will not turn off the camcorder.
  - Set the date and time when using your camcorder for the first time. ➡page 25



- The camcorder operates the self-diagnosis function when powered on. If a warning message appears, refer to '**warning indicators and messages**' (pages 117~120) and take corrective action.
- If you close the LCD screen when the power is on, the power saving mode activates.

### When using this camcorder for the first time

When you use your camcorder for the first time or reset it, the time zone screen appears for the start-up display. Select your geographical location and set the date and time. ➡page 25  
If you do not set the date and time, the time zone screen appears every time you turn on the camcorder.

# basic operation of the camcorder

## SWITCHING TO THE POWER SAVING MODE

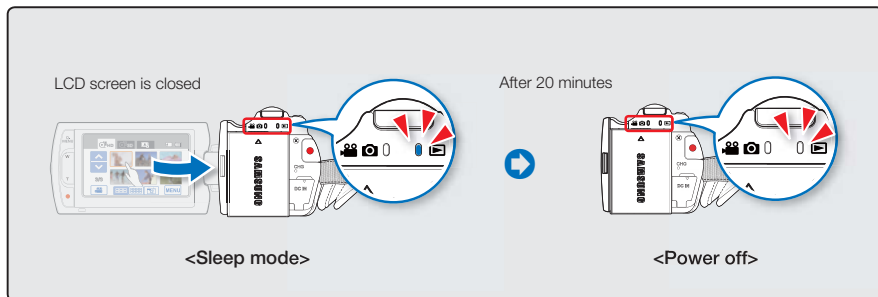
If you need to use camcorder for the extended time, the following functions enable you to prevent unnecessary energy consumption.

### Quick On STBY Mode in the STBY mode

- The camcorder switches to "**Quick On STBY**" mode when the LCD screen is closed. ➡ page 82

### Sleep Mode in the play mode (includes the thumbnail index view)

- The camcorder switches to the sleep mode when the LCD screen is closed, and then, if idle for more than 20 minutes, the camcorder turns off. However, if "**Auto Power Off: 5 Min**" is set, the camcorder turns off in 5 minutes.
- If you open the LCD screen or connect a cable to the camcorder during sleep mode, the sleep mode ends and the camcorder returns to the last operation mode used.



- **The power saving mode does not work in the following situations:**

- When the camcorder has a cable connection. (USB, Component/AV, or AC power adaptor, etc.)
- While recording, playback, or the slideshow is being operated.
- When the LCD screen is opened.

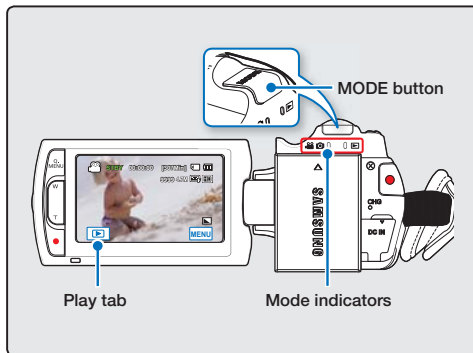
- The camcorder consumes less battery power in the power saving mode. However, if you plan to use the camcorder for an extended time, we recommend you turn off the camcorder by pressing the **Power** (⏻) button when not using it.

## SETTING THE OPERATION MODES

You switch the operating mode in the following order each time you press the **MODE** button.

Record mode (📹📷) ↔ Play mode (▶️).

- Each time the operation mode changes, the respective mode indicator lights turn on.
- Touching the Play (▶️) tab in the record mode switches the operation mode to the play mode.



Mode	Mode indicators	Functions
Record mode	📹📷	To record videos or photos.
Play mode	▶️	To play videos or photos, or edit them.



This camcorder provides one record mode which combines the video and photo record modes. You can easily record videos or photos in the same mode without having to change it.



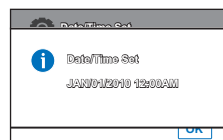
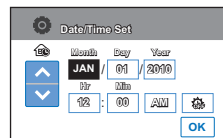
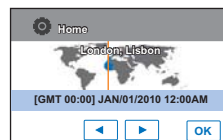


# first time settings

## SETTING THE TIME ZONE AND DATE/TIME FOR THE FIRST TIME

Set the date and time of your local area when you turn on the camcorder for the first time.

1. Open the LCD screen to turn on the camcorder.
  - Your camcorder turns on automatically when you open the LCD screen.
  - The time zone ("**Home**") screen appears displaying settings for Lisbon and London (Greenwich Mean Time).
  - You can also set your current time zone from the "**Setting**" menu. ➔page 76
2. Select your local area on the map by touching the left (◀) or right (▶) tab on the LCD screen, then press the (OK) tab.
  - The "**Date/Time Set**" screen appears.
3. Touch the date and time information, and change the setting values by using the up (▲) or down (▼) tabs.
4. Make sure the clock is correctly set, then touch the (OK) tab.
  - The message "**Date/Time Set**" appears.



- The year can be set up to 2037, based on "**Home**" item.
- Set "**Date/Time Display**" to On. ➔page 78
- Activating the (⚙️) icon moves the time forward by 1 hour.

### Built-in rechargeable battery

- Your camcorder includes a built-in rechargeable battery that retains the date and time settings even after the power is turned off.
- If the battery is depleted, the current date/time values are reset to the default values. You need to recharge the built-in rechargeable battery (see below), and then re-set the current date and time.

### Charging the built-in rechargeable battery

- The built-in battery is always recharged while your camcorder is connected to AC power or while the battery is attached.
- If the camcorder is not used for about 2 weeks without connecting to the AC power or attaching the battery, the built-in battery fully discharges. If this occurs, charge the built-in battery by connecting the camcorder to the supplied AC adaptor for 24 hours.

# first time settings

## SELECTING THE LANGUAGES

You can select the language in which the camcorder displays the menu screen or messages. The language setting is retained when the camcorder is powered off.

1. Touch the Menu (MENU) → Setting (⚙️) tab.
2. Touch the up (⬆️)/down (⬇️) tab until “**Language**” is displayed.
3. Touch “**Language**,” and then touch the desired OSD language.
4. Touch the Exit (⌂) or Return (↩️) tab to complete the setting.
  - The menu screen and messages are displayed in the selected language.



### Submenu items

“English” → “한국어” → “Français” → “Deutsch” →  
“Italiano” → “Español” → “Português” → “Nederlands” →  
“Svenska” → “Suomi” → “Norsk” → “Dansk” →  
“Polski” → “Čeština” → “Slovensky” → “Magyar” →  
“Română” → “Български” → “Ελληνικά” → “Srpski” →  
“Hrvatski” → “Українська” → “Русский” → “中文” →  
“日本語” → “ไทย” → “Türkçe” → “ایرانی” →  
“العربية” → “עברית”



- “**Language**” options may be changed without prior notice.
- The camcorder retains the language you select even when not connected to the battery or AC power.
- The date and time format may change depending on the selected language.

# getting ready to start recording

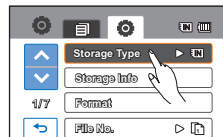
## SELECTING THE STORAGE MEDIA (HMX-H203/H204/H205 ONLY)

You can record videos and photos in the built-in memory or a memory card. Select the desired storage media before starting recording or playback.

### PRECHECK!

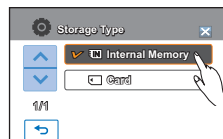
- You can use SD or SDHC cards in your camcorder. However, some cards are not compatible depending on the memory card manufacturer and memory card type.
- Before inserting or ejecting the memory card, turn the camcorder off.

1. Touch the Menu (MENU) → Setting (⚙️) tab.
2. Touch the up (⬆️)/down (⬇️) tab until “Storage Type” is displayed.
3. Touch “Storage Type,” and then touch the desired storage media.



### Submenu items

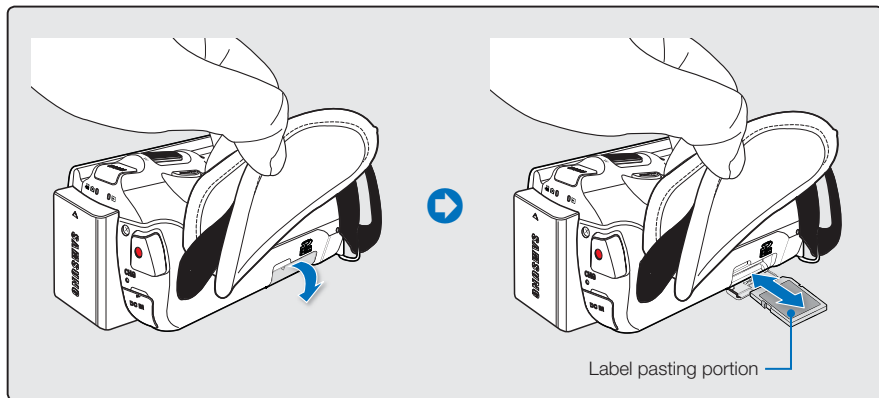
- **Internal Memory (📁):** When using the internal memory (SSD, Solid State Drive).
- **Card (📁):** When using the memory card (SD or SDHC card).



- Do not format the built-in memory or any memory card you intend to use in the camcorder on a PC.
- When you insert a memory card, the storage media setup screen appears. Touch “Yes” if you want to use a memory card, or “No” if not.
- Do not remove the power (battery or AC power adaptor) when accessing storage media to record, playback, format, delete, etc. The storage media and its data may be damaged.
- Do not eject a memory card while it is being used in the camcorder. The memory card and its data may be damaged.
- You can also access storage media by using the Q.MENU button.
- SSD based on flash memory has been adopted as internal memory for the camcorder.

# getting ready to start recording

## INSERTING / EJECTING A MEMORY CARD (NOT SUPPLIED)



### To insert a memory card

1. Open the memory card cover.
2. Insert the memory card into the card slot until it softly clicks.
  - Make sure that SD/SDHC card logo is facing up and the camcorder is placed as shown in the figure.
3. Close the memory card cover.

### To eject a memory card

1. Open the memory card cover.
2. Gently push the memory card to eject it.
3. Close the memory card cover.



- To avoid data loss, turn off the camcorder by pressing the **Power** (⏻) button for one second before inserting or ejecting the memory card.
- Be careful not to push the memory card too hard. The memory card may suddenly pop out.

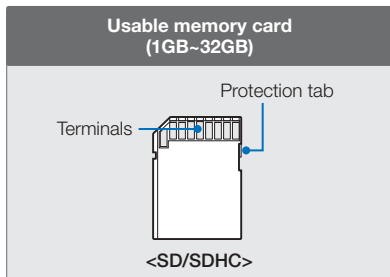


Your camcorder supports only SD (Secure Digital) and SDHC (Secure Digital High Capacity) cards. Card compatibility with the camcorder may vary depending on the manufacturer and the type of memory card.

# SELECTING A SUITABLE MEMORY CARD (NOT SUPPLIED)

## Compatible memory cards

- This camcorder can be used with SD (Secure Digital) and SDHC (Secure Digital High Capacity) cards. We recommend you use an SDHC (Secure Digital High Capacity) card. SD cards up to 2GB are supported with this camcorder. Normal operation is not guaranteed with SD cards bigger than 2GB.
- MMC (Multi Media Card) and MMC Plus are not supported.
- Compatible memory card capacity: SD 1 ~ 2GB, SDHC 4 ~ 32GB
- Use compatible memory card brands. Others are not guaranteed to work. A list of compatible brands is below.
  - SDHC/SD cards: Panasonic, SanDisk, TOSHIBA
- For video recording, use a memory card that supports faster write speeds (above SDHC Class 6 card).
- SD/SDHC memory cards have a mechanical write-protection switch. Setting the switch prevents accidental erasure of files recorded on the card. To enable writing, move the switch up in the direction of the terminals. To set write protection, move the switch down.



## SDHC (Secure Digital High Capacity) cards

- SDHC (Secure Digital High Capacity) memory card
  - An SDHC card is a higher version (Ver. 2.00) of the SD card and supports capacities above 2GB.
  - SDHC cards cannot be used with current SD enabled host devices.

## Common cautions for memory cards

- Damaged data may not be recovered. We recommend you make a back-up of important data separately on the hard disk of your PC.
- Turning the power off or removing a memory card during an operation such as formatting, deleting, recording, and playback may cause data loss.
- After you modify the name of a file or folder stored in the memory card using your PC, your camcorder may not recognize the modified file.

## Handling a memory card

- We recommend that you power off before inserting or removing the memory card to avoid data loss.
- We can not guaranteed that you can use memory cards formatted by other devices. When you format a card, be sure to format the memory card using this camcorder.
- You must format newly-purchased memory cards, memory cards with data that your camcorder cannot recognize, and cards with data saved by other devices. Note that formatting erases all data on the memory card.

# getting ready to start recording

- If you cannot use a memory card that has been used with another device, format it with your camcorder. Note that formatting erases all information on the memory card.
- A memory card has a certain life span. If you cannot record new data, you have to purchase a new memory card.
- Do not bend, drop, or subject a card to strong impacts.
- Do not place foreign substances on the memory card terminals. Use a soft dry cloth to clean the terminals if required.
- Do not paste anything other than the label provided with the card on the label pasting area of the card.
- Be careful to keep the memory card out of the reach of children, who might swallow it.

## Notes on use

- Samsung is not responsible for data loss due to misuse.
- We recommend using a memory card case to prevent data loss from motion or static electricity.
- After a period of use, the memory card may get warm. This is normal and is not a malfunction.

## The camcorder supports SD and SDHC memory cards, giving you a wider choice of cards!

The data storage speed may differ, depending on the manufacturer and production system.

- SLC (single level cell) system: faster write speed enabled.
- MLC (multi level cell) system: only lower write speed is supported.

For best results, we recommend using a memory card that supports a faster write speed.

Using a lower write speed memory card for recording video may cause difficulties when storing.

You may even lose your video data during the recording.

In an attempt to preserve every bit of the recorded video, the camcorder forcibly stores the video on the memory card and displays a warning:

**“Low speed card. Please record at a lower resolution.”**

If you are unavoidably using a low speed memory card, the resolution and quality of the recording may be lower than the set value. ➡page 54

The higher the resolution and quality, the more memory the camcorder uses.



# RECORDABLE TIME AND CAPACITY

## Recording time available for video

Resolution	Quality	Storage media (Capacity)					
		1GB	2GB	4GB	8GB	16GB	32GB
[HD]1080/60i*	Super Fine	8min	15min	30min	61min	125min	253min
	Fine*	9min	18min	36min	74min	152min	307min
	Normal	12min	23min	46min	94min	193min	390min
[HD]720/60p	Super Fine	11min	21min	42min	86min	177min	357min
	Fine*	14min	28min	57min	115min	235min	475min
	Normal	21min	42min	84min	171min	351min	708min
[SD]480/60p	Super Fine	32min	63min	126min	254min	521min	1051min
	Fine*	42min	83min	166min	336min	688min	1387min
	Normal	62min	123min	244min	494min	1011min	2039min

(Unit: Approximate minutes of recording)

## Recordable number of photos

Photo resolution	Storage media (Capacity)					
	1GB	2GB	4GB	8GB	16GB	32GB
2880x1620*	656	1251	2482	5014	9999	9999
1920x1080	1173	2346	4654	9402	9999	9999

(Unit: Approximate number of images)

**1GB  $\approx$  1,000,000,000 bytes. Actual formatted capacity may be less as the internal firmware uses a portion of the memory.**

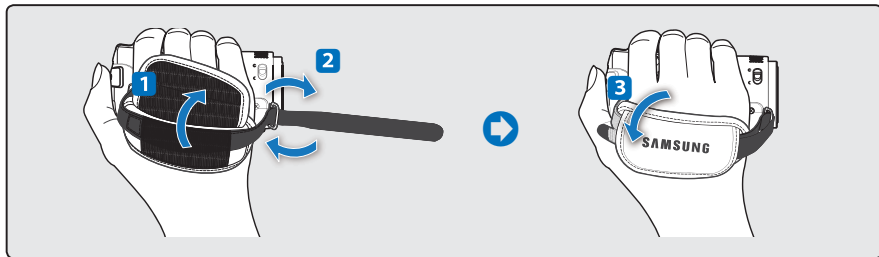


- Actual recording times may differ depending on the recording conditions and the subject.
- The higher the quality and resolution, the more memory is used.
- Lower resolution and quality increases the recording time, but the image quality may suffer.
- The bit rate automatically adjusts to the recording image. Accordingly, the recording time may vary.
- Memory cards bigger than 32GB may not operate normally.
- When a video file exceeds 1.8GB, the next video file is created automatically.
- The maximum number of recordable photo and video files is 9999, respectively.
- The above items marked with \* indicate the default setting.
- The recording length of a Time Lapse REC may vary depending on settings.

# getting ready to start recording

## ATTACHING THE GRIP BELT

Adjust the length of grip belt so that the camcorder is stable when you press the **Recording start/stop** button with your thumb.

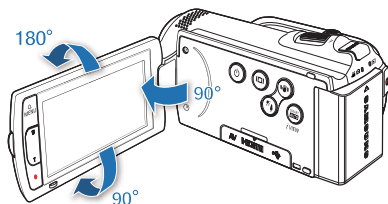


If you make the grip belt too tight and use excessive force to insert your hand, the grip belt hook of the camcorder may be damaged.

## ADJUSTING THE LCD SCREEN

The wide LCD screen on your camcorder offers high quality image viewing.

1. Open the LCD screen with your finger.
  - The screen opens up to 90°.
2. Rotate the LCD screen towards the lens.
  - You can rotate it up to 180° towards the lens and up to 90° backward. To view recordings more conveniently, rotate the screen by 180° towards the lens, then fold it back to the body.



Excessive rotation may damage the connective hinge between the screen and the camcorder.



Clean fingerprints or dust on the screen with a soft cloth.



## BASIC CAMCORDER POSITIONING

---

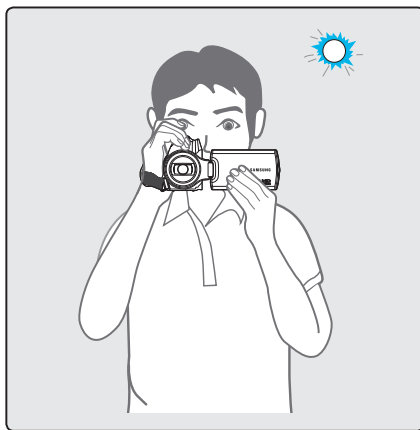
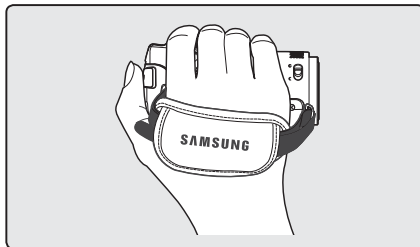
Use both hands while taking a video or photo to prevent the camcorder from shaking. Try to avoid any slight movement while shooting.

### Adjusting the shooting angle

---

Aim the camcorder as shown in the illustration.

1. Hold the camcorder with your both hands.
2. Put your hand through the grip belt.
3. Make sure your footing is stable and there is no danger of colliding with another person or object.
4. Aim and focus as shown in the illustration.



We recommended you keep the sun behind you while shooting.

# basic recording

## RECORDING VIDEOS

- This camcorder supports both High Definition (HD) and Standard Definition (SD) image resolutions. Set your desired resolution before recording. ➔page 54
- This camcorder provides one record mode which combines the video and photo record modes. You can easily record videos or photos in the same mode without having to change it.

### PRECHECK!

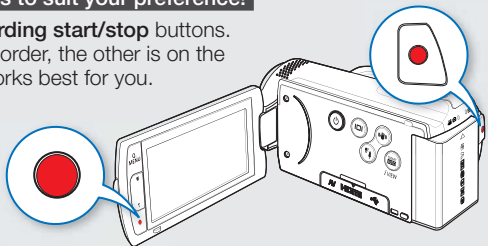
- Insert a memory card.
- Set the appropriate storage media. (HMX-H203/H204/H205 only) ➔page 27
- Open the LCD screen to turn on the camcorder.
- Your camcorder turns on automatically when you open the LCD screen.
- Set the Lens open/close switch to open (L). ➔page 12

1. Select a subject to record.
  - Adjust the LCD panel to the best angle for recording.
  - Use the **Zoom** lever or **Zoom** button to adjust the size of the subject. ➔page 40
2. Press the **Recording start/stop** button.
  - The recording (●) indicator appears, and recording starts.
3. To stop recording, press the **Recording start/stop** button again.
  - The Quick View icon appears on the screen.
4. Touch the Quick View (▶) icon to view the most recently recorded video.
  - After Quick View is complete, your camcorder returns to the standby mode.



### Two recording start/stop buttons to suit your preference!

This camcorder features two **Recording start/stop** buttons. One is on the rear side of the camcorder, the other is on the LCD screen. Select the one that works best for you.





- If power is interrupted or an error occurs during recording, the video may not be recorded/edited.
  - Samsung is not responsible for any damage caused by a failure of normal recording or playback operation because of memory card error.
  - Note that damaged data cannot be recovered.
- 



- Videos are compressed in the H.264 (MPEG-4.AVC) format.
  - Eject the battery when you have finished recording to prevent unnecessary battery power consumption.
  - For the on-screen information display, see page 14.
  - For approximate recording time, see page 31.
  - Sound is recorded from the internal stereo microphone above the lens. Make sure that the microphone is not blocked.
  - Before recording an important video, make sure to test the recording function to see if there are any problems with audio or video recording.
  - The brightness of the LCD screen can be adjusted in the menu options. Adjusting the LCD screen does not affect the image being recorded. ➡ page 79
  - For various functions available during recording, see "Recording menu items." ➡ pages 53–69
  - Do not turn off the camcorder or remove the memory card while accessing the storage media. Doing so may damage the storage media or the data in the storage media.
  - If the power cable/battery is disconnected or recording is disabled during recording, the system is switched to the data recovery mode. While data is being recovered, no other function is enabled.
  - The menu setting tabs shown on the LCD screen do not affect the image being recorded.
  - In the record mode, you can set the Quick View menu option. The Quick View icon appears when you have set the Quick View menu option to On.
  - Under some low light conditions that may be encountered, the video motion may not be fluid as under normal light conditions.
-

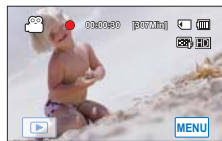
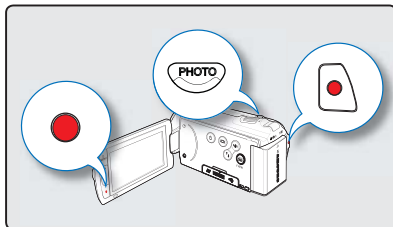
## CAPTURING PHOTOS DURING VIDEO RECORDING (DUAL RECORDING)

Your camcorder can capture photos without interrupting video recording.

### PRECHECK!

- Insert a memory card.
- Set the appropriate storage media.  
(HMX-H203/H204/H205 only) ➡ page 27
- Open the LCD screen to turn on the camcorder.
- Your camcorder turns on automatically when you open the LCD screen.
- Set the Lens open/close switch to open (☑), ➡ page 12

1. Press the **Recording start/stop** button.
  - The recording (●) indicator will display, and recording will start.
2. Press the **PHOTO** button at the scene you want while recording videos.
  - When the (▶▶▶) indicator disappears, the photo image is recorded without a shutter sound.
  - Video keeps recording, even while photos are taken.
  - To stop recording, press the **Recording start/stop** button again.



<Dual recording during video recording>



- **You cannot capture photos under the following conditions:**
  - During a time lapse recording.
  - Photos are captured in 1920x1080 resolution regardless of the resolution of the video recording.

# RECORDING PHOTOS

You can take photos and store them in the storage media. Set the desired resolution before recording. ➡ page 55

## PRECHECK!

- Insert a memory card.
- Set the appropriate storage media.  
(HMX-H203/H204/H205 only) ➡ page 27
- Open the LCD screen to turn on the camcorder.
- Your camcorder turns on automatically when you open the LCD screen.
- Set the Lens open/close switch to open (☑). ➡ page 12

### 1. Select a subject to record.

- Adjust the LCD panel to the best angle for recording.
- Use the **Zoom** lever or **Zoom** button to adjust the size of the subject. ➡ page 40

### 2. Adjust the subject at the center of the LCD screen, and half-press the **PHOTO** button.

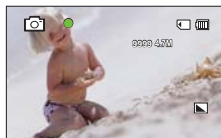
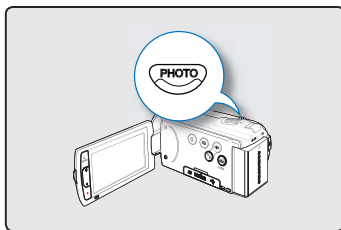
- Your camcorder adjusts to the ideal aperture and focus automatically (if “**Aperture**” and “**Focus**” are set to “**Auto**” ➡ pages 56, 60).
- When the subject is in focus, the (●) indicator appears green. If it appears red, readjust the focus.

### 3. Fully press the **PHOTO** button.

- The shutter sound is heard. (when “**Shutter Sound: On**” is set).
- To continue recording, wait until the current photo is completely saved on the storage media.
- When the photo is recorded on the storage media, the Quick View icon appears on the screen.

### 4. Touch the Quick View (▶) icon to view the most recently recorded photo.

- To return to the standby mode, touch the Return (⏮) tab.



- Recordable number of photos varies depending on the photo resolution. ➡ page 31
- Audio is not recorded when you take photos.
- If focusing is difficult, use the manual focus function. ➡ page 60
- Do not turn off the camcorder or remove the memory card when taking photos as it may damage the storage media or data.
- For the on-screen display information, see page 14.
- Adjust the brightness of the LCD screen using menu items. Adjusting the brightness does not affect the recorded image. ➡ page 79
- Photo files conform to the DCF (Design rule for Camera File system) standard, established by JEITA (Japan Electronics and Information Technology Industries Association).

# basic recording

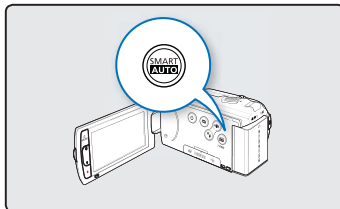
## RECORDING WITH EASE FOR BEGINNERS (SMART AUTO)

In Smart Auto mode, your camcorder automatically chooses the appropriate settings based on the type of scene it detects (Indoor, Night, etc.). Smart Auto mode is helpful if you are not familiar with the best camcorder settings for various scenes.

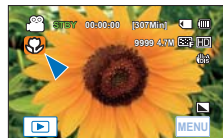
### PRECHECK!

Select the record mode by pressing the **MODE** button. ➔page 23

1. Press the **SMART AUTO** button.
  - Smart Auto (SMART AUTO) and Anti-shake (P.OIS) icon is displayed on the LCD screen.
2. Align your subject in the frame.
  - The camcorder automatically detects the scene when you align the subject.
  - The appropriate scene icon is displayed on the LCD screen.



	Appears when recording a very bright scene. (White)
	Appears when recording an outdoor scene. (Landscape)
	Appears when recording indoors. (Indoor)
	Appears when recording at night. (Night)
	Appears when recording with a close-up. (Macro)



<When recording with close-up>

3. Press the **Recording start/stop** button or **PHOTO** button.
  - ➔pages 34, 36
  - To record videos, press the **Recording start/stop** button.
  - To record photos, press the **PHOTO** button.
4. To cancel Smart Auto mode, press the **SMART AUTO** button again.



#### Buttons unavailable during Smart Auto operation:

- Menu (MENU) tab / Q.MENU button/ etc. Most settings are automatically adjusted in Smart Auto mode. To set or adjust functions on your own, release the Smart Auto mode first.
- You can not access Smart Auto mode while recording. You must set this function before recording.
  - If the camcorder fails to identify the recording situation, it records in the basic setting (SMART AUTO).
  - The camcorder may not select the correct scene depending on shooting conditions, such as camcorder shake, lighting, and distance to the subject.
  - If the camcorder detects more than one scenes at the same time, Smart Auto prioritizes as follows: Macro → White → Landscape → Night → Indoor
- For example, a) If White and Indoor can be applied at the same time, then White is selected and corresponding icon displays.  
b) If White and Landscape can be applied at the same time, then White is selected and corresponding icon displays.

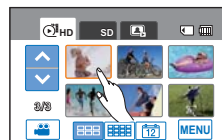
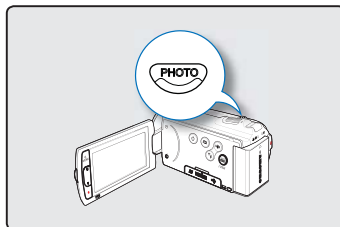
# CAPTURING PHOTOS WHILE PLAYING BACK VIDEOS

You can capture photos during video playback.

## PRECHECK!

- Insert a memory card.
- Set the appropriate storage media. (HMX-H203/H204/H205 only) ↪page 27
- Touch the Play (▶) tab on the LCD screen to select the play mode. ↪page 23

1. Recorded videos appear in a thumbnail index view.
  - Touch the up (⬆️)/down (⬇️) tab to move to the previous/next page.
2. Touch the video clip you want.
  - The selected video is played.
3. Press the **PHOTO** button halfway at the scene you want to capture.
  - The playback screen is paused.
4. Press the **PHOTO** button fully down.
  - The captured still image is recorded in JPEG format.
5. When the photo is recorded in the storage media, touch the Return (⏮️) tab to view the thumbnail index.
  - Touch the Photo (📷) tab to view the recorded photos. ↪page 46



## You cannot capture photos under the following conditions:

- During a time lapse recording.
- Photos are captured in 1920x1088 resolution regardless to the resolution of the video recording.

# basic recording

## ZOOMING

This camcorder allows you to record using optical 20x power zoom and digital zoom by sliding the **Zoom** lever or pressing the **Zoom** button on the LCD panel.

### PRECHECK!

Select the record mode by pressing the **MODE** button. ➡ page 23

### To zoom in

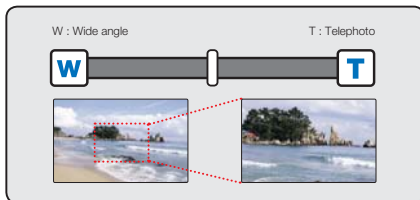
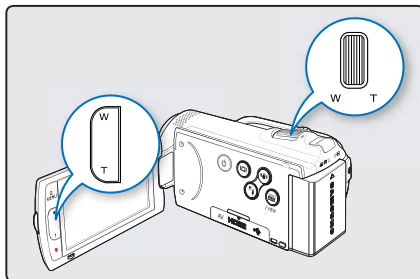
Press the **T** (zoom) button on the LCD panel or slide the zoom lever towards **T** (telephoto).

- The distant subject is gradually magnified and can be recorded.

### To zoom out

Press the **W** (zoom) button on the LCD panel or slide the zoom lever towards **W** (wide angle).

- The subject moves further away.



**Tip** When using the **Zoom** (W/T) lever, you can decrease zoom speed by sliding the **Zoom** (W/T) lever slowly. Sliding it faster increases the zoom speed. However, when using the **Zoom** (W/T) button on the LCD panel, you cannot adjust the zoom speed.



- Using the optical zoom does not degrade the image quality and clarity.
- Use the digital zoom when you want to zoom more than the optical zoom range. ➡ page 64
- Focusing may become unstable when you record with a fast zoom or zoom into a subject standing too far away. In this case, use the manual focus function. ➡ page 60
- The minimum possible distance between camcorder and subject while maintaining sharp focus is about 1cm (about 0.4 inches) for wide angle and about 1m (about 39.4 inches) for telephoto. If you want to shoot the subject close to the lens at a wide angle, use the Tele Macro function. ➡ page 63
- When using the zoom function while holding the camcorder with your hand, use Anti-shake (OIS) for stable recording. ➡ page 41
- Frequent use of the zoom function consumes more power.



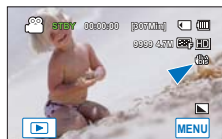
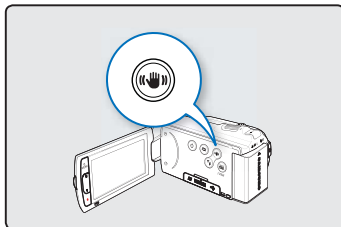
# SETTING THE ANTI-SHAKE (OIS: OPTICAL IMAGE STABILIZER)

Use the Anti-shake (OIS: Optical Image Stabilizer) function to compensate for unstable images caused by shaking movements when holding the camcorder.

## PRECHECK!

Select the record mode by pressing the **MODE** button. ➡ page 23

Press the **Anti-shake (OIS)** (👉) button to toggle the Anti-shake (OIS) mode between On and Off.



## Tip

Use the Anti-Shake function in the following cases:

- When recording while walking or when recording in a moving car.
- When recording with the zoom function.
- When recording subjects of a small size.



- When turned on, the Smart Auto mode automatically sets Anti-shake (OIS) to On.
- Gross camcorder shake may not be entirely corrected even if Anti-shake is set to On. Firmly hold the camcorder with both hands.
- When this function is set to On, the actual movement of the subject and the movement displayed on the screen may be slightly different.
- When recording in dark lighting at high magnification while this function is set to On, after-images may stand out. In this case, we recommend using a tripod (not supplied) and turning Anti-shake to Off.

# basic recording

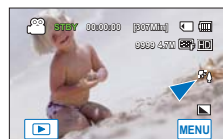
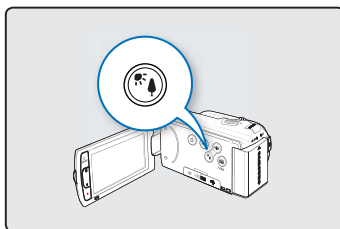
## USING BACK LIGHT COMPENSATION MODE

When a subject is lit from behind, this function will compensate for lighting so that the subject is not too dark.

### PRECHECK!

Select the record mode by pressing the **MODE** button. ➔ page 23

Press the **Back light** (🔦) button to toggle the back light mode between On and Off.



**Tip** Back lighting causes the subject to be darker than the background. It typically occurs when:

- The subject is in front of a window.
- The person you want to record is wearing white or shiny clothes and is placed against a bright background. The person's face is too dark to distinguish his/her features.
- The subject is outdoors and the background is overcast.
- The light sources are too bright.
- The subject is in front of a snowy background.



# basic playback

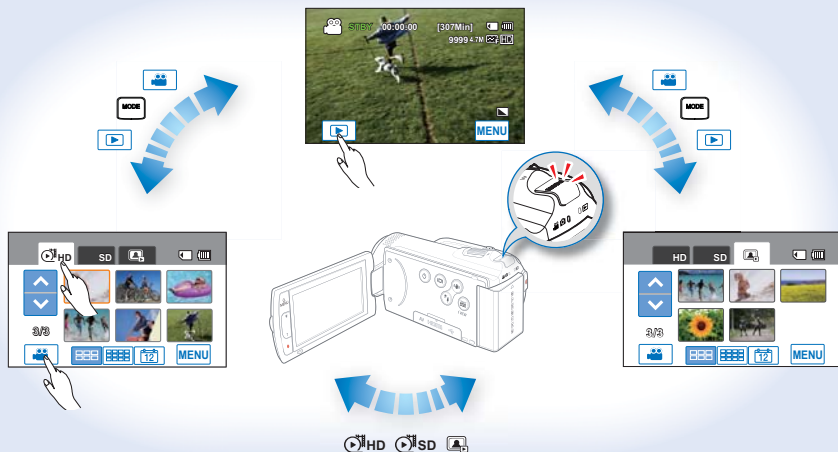
## CHANGING THE PLAYBACK MODE

- You can set the record mode and the play mode in turn with the **MODE** button.
- You can also switch the operation mode directly into the playback thumbnail display by touching the Play (▶) tab on the LCD screen. You will find the most recently created file is highlighted in the thumbnail view.
- The thumbnail display options are selected depending on the standby mode that was used the last time. However, you can choose the video (HD or SD) or photo thumbnail view display options by touching the HD (📺HD), SD (📺SD), or photo (📷) tab on the LCD screen.



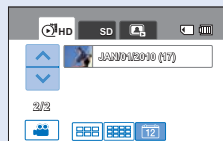
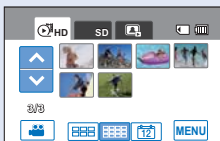
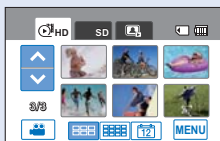
### Understanding how to change the operation modes

You can easily change the operation modes by touching the LCD screen or using the buttons as shown in the following figures:



### Tip

You can choose from these thumbnail display options: 3x2 (📷), 4x3 (📷), and Date (📷).



# basic playback

## PLAYING BACK VIDEOS

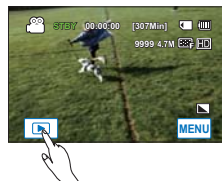
You can preview recorded videos in the thumbnail index view, find your desired video quickly, and playback directly.

### PRECHECK!

- Insert a memory card.
- Set the appropriate storage media. (HMX-H203/H204/H205 only) ↪page 27
- Touch the Play (⏮) tab on the LCD screen to select the play mode. ↪page 23

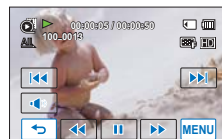
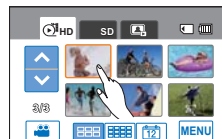
#### 1. Touch the HD (📺HD) or SD (📺SD) tab.

- Video thumbnails corresponding to the selected video resolution appear on the screen.
- To change the current thumbnail view, select the (📺), (📺), or (📺) tab on the screen.
- If you select the thumbnail display by the date (📅), you can sort videos by specific dates. ↪page 43
- To change the current thumbnail page, touch the up(⬆) or down(⬇) tab.



#### 2. Touch the desired video clip.




- The selected video is played and playback control tabs appear briefly. They reappear when you touch anywhere on the screen.
- You can set playback settings using the “Play Option” menu. ↪page 70
- To stop playback and return to the thumbnails, touch the Return (⏮) tab.





- It may take some time to start playback, depending on the size and quality of the selected video.
- **The camcorder may not play the following video files:**
  - A video whose name was changed changed on a PC
  - A video recorded on another device.
  - A video whose file format is not supported by the camcorder
- You can use various play options during the video playback. ↪page 45
- The recorded videos can be played on a TV or PC. ↪pages 102, 110
- If you touch the Menu (MENU) tab or **Q.MENU** button during playback, play is paused and the menu screen appears.

## Various playback operations

### Playback / Pause / Stop

- Playback and pause alternates when you touch the Play () / Pause () tab during playback.
- Touch the Return () tab to stop playback.






### Search playback

During playback, each touch of the Reverse search () / Forward search () tab increases the play speed:



- RPS (Reverse Playback Search) rate:  $x2 \rightarrow x4 \rightarrow x8 \rightarrow x2$
- FPS (Forward Playback Search) rate:  $x2 \rightarrow x4 \rightarrow x8 \rightarrow x2$

### Skip playback

Touch the Reverse skip () / Forward skip () tab during playback.



- Touching the Forward skip () tab plays the next video.
- Touching the Reverse skip () plays the beginning of the scene. If reverse skip () is touched within 3 seconds from the start of the file, the previous video is played.
- Place and hold your finger on the Reverse skip () / Forward skip () tab to search for a video number quickly. When you lift off your finger, the selected video is played.

### Slow playback

When playback is paused, touching the Reverse slow () / Forward slow () tab reduces the playback speed:

- Reverse/forward playback slow rate:  $x1/2 \rightarrow x1/4 \rightarrow x1/8 \rightarrow x1/2$






### Frame by frame playback

When playback is paused, touch the Reverse frame advance () / Forward frame advance () to make the video go in reverse or forward one frame at a time.

### To adjust the volume

You can hear the recorded sound from the built-in speaker.

You can adjust the sound level between "0~19." When the level is at "0," you cannot hear sound.

1. Touch the Volume () tab on the LCD screen.
2. Touch the () / () tab to increase or decrease audio volume.
  - If you touch the () / () tab for a long time, the sound level will be adjusted continuously.



# basic playback

## VIEWING PHOTOS

You can view recorded photos by using various playback functions.

### PRECHECK!

- Insert a memory card.
- Set the appropriate storage media. (HMX-H203/H204/H205 only) ➡ page 27
- Touch the Play (⏮) tab on the LCD screen to select the play mode. ➡ page 23

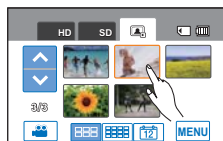
#### 1. Touch the Photo (🖼️) tab.

- The thumbnail view appears.
- To change the current thumbnail view, select (📅), (📅), or (📅) tab on the screen.
- If you select the thumbnail display by the date (📅), you can sort photos by specific dates. ➡ page 43
- To change the current thumbnail page, touch the up (⬆) or down (⬇) tab.

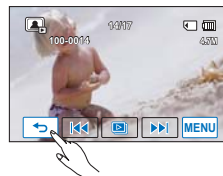


#### 2. Touch your desired photo to display.

- The selected photo is displayed in full screen and playback control tabs appear briefly. They reappear when you touch anywhere on the screen.
- Touch previous image (⏮)/ next image (⏭) tab to view the previous and next photo.
- Place and hold your finger on the previous image (⏮)/next image (⏭) tab to search for a desired photo number quickly. When you lift off your finger, the selected photo is displayed.



#### 3. To return to the thumbnails, touch the Return (⏮) tab.



- Do not power off or eject the memory card during photo playback. Doing so may damage the recorded data.
- **Your camcorder may not playback the following photo files normally:**
  - A photo whose file name was changed on a PC.
  - A photo recorded on another device.
  - A photo with a file format not supported by this camcorder. (One that does not conform to DCF standards.)



Loading time may vary depending on the size and quality of the selected photo.

# VIEWING A SLIDE SHOW

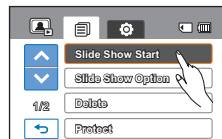
You can view a photo slide show.

## PRECHECK!

- Insert a memory card.
- Set the appropriate storage media. (HMX-H203/H204/H205 only) ↪ page 27
- Touch the Play (⏮) tab on the LCD screen to select the play mode. ↪ page 23

### 1. Touch the Photo (📷) tab.

- The thumbnail view appears.
- To change the current thumbnail page, touch the up (⬆) or down (⬇) tab.



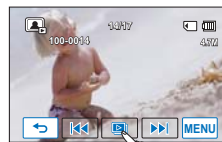
### 2. Touch the Menu (MENU) tab → “Slide Show Start”

- The (📷) indicator is displayed. The slide show starts from the current selected photo.
- All photos are played back continuously in the set slide show option (“Interval,” “Music,” “Effect.”)
- If you select the thumbnail display by the date (📅), photos only taken on the corresponding date play back in a slide show. ↪ page 43
- You can adjust the background music’s volume level using the Volume (🔊) tab while playing back the slide show with music.
- To stop the slide show, touch the Return (⏮) tab.
- Every time you touch the LCD screen, the play related tabs appear on the LCD screen.



## Tip

- To start a slide show during the playback of a single photo, touch the slide show (📷) tab on the LCD screen or touch the Menu (MENU) tab → “Slide Show Start.”
- You can also start a slide show from the Quick menu. ↪ page 52



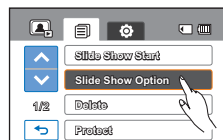
# basic playback

## Using the Slide Show Option

While playing back a slide show, you can use the “**Slide Show Option**” menus as follows:

### Submenu items

- **Interval:** Photos play back continuously at the interval you select. You can choose 1 sec. or 3 sec.
- **Music:** You can turn the built-in background music on or off. This camcorder has 7 default background melodies stored in the boot-up flash memory. When music is On, starting a slide show starts the play back of the 7 melodies in shuffle mode.
- **Effect:** Continuously plays back photos using the fade in / out effect between image transitions.

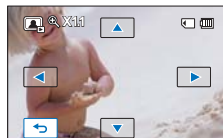
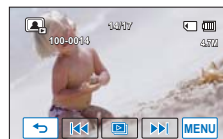
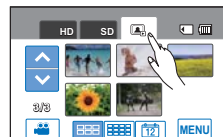


## ZOOMING DURING PHOTO PLAYBACK

You can magnify a playback image. Touch the up (▲)/down (▼)/left (◀)/right (▶) to select the desired area to magnify.

### PRECHECK!

- Insert a memory card.
  - Set the appropriate storage media. (HMX-H203/H204/H205 only) → page 27
  - Touch the Play (▶) tab on the LCD screen to select the play mode. → page 23
1. Touch the Photo (📷) tab.
    - The thumbnail view appears.
    - To change the current thumbnail page, touch up the (▲) or down (▼) tab.
  2. Touch the photo you want to magnify.
    - The selected photo is displayed on the full screen.
  3. Adjust the magnification with the **Zoom (W/T)** button or **Zoom (W/T)** lever.
    - Magnification starts from the center of the photo.
    - You can zoom in from x1.1 to x8.0.
    - While the playback zoom is in use, other images cannot be selected.
  4. Touch the up (▲)/down (▼)/left (◀)/right (▶) tab to view the area you want on the magnified photo.
  5. To cancel, touch the Return (⏮) tab.



Photos recorded on other devices or those edited on a PC cannot be magnified.



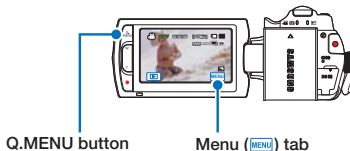
# advanced recording

## HANDLING MENUS AND QUICK MENUS

The instructions below are examples of how to access and use menu items using the Menu Tab and the **Q.MENU** Button. When you access and use other menu items, use these examples as guides.

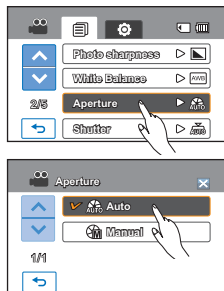
### PRECHECK!

- Open the LCD screen to turn on the camcorder.
- Your camcorder turns on automatically when you open the LCD screen.
- Select the record mode by pressing the **MODE** button.  
→ page 23



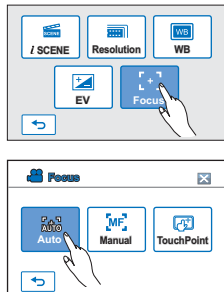
### Using the Menu (MENU) tab

1. Touch the Menu (MENU) tab on the touch panel.
  - The menu screen appears.
  - To change the current page, touch the up (▲)/down (▼) tab.
2. Touch “Aperture.” (The Aperture function is used here as an example.)
3. Touch the desired option.
  - Adjust the setting values accordingly.
  - Touch the decrease (◀) or increase (▶) tab to adjust the aperture.
  - To exit the menu, touch the Exit (⌂) or Return (↶) tab.



### Using the Q.MENU button

1. Press the **Q.MENU** button on your camcorder to see the available menu options.
  - The quick menu screen appears.
2. Touch “Focus.” (The Focus function is used here as an example.)
3. Touch the desired option.
  - Adjust the setting values.
  - To exit the menu, touch the Exit (⌂) or Return (↶) tab.



- When using the Menu (MENU) or Quick menu items, some menu items can not be used at the same time, or may be grayed out. For more information on this, see Troubleshooting on page 127.
- For easy understanding, the menu setting procedures on this page are explained using the simplest methods. Menu setting methods can differ depending on the menu options you choose.

# advanced recording

## MENU ITEMS

- Accessible items in the menus vary depending on the operating mode.
- For item operation details, see the page number listed under Page in the table.

### Recording menu items

Items	Default value	Page
SCENE	Auto	53
Video Resolution	[HD]1080/60i	54
Video Quality	Fine	54
Photo Resolution	2880x1620	55
Photo Sharpness	Normal	55
White Balance	Auto	56
Aperture	Auto	58
Shutter	Auto	59
EV	0	59
Focus	Auto	60
Digital Effect	Off	61
Fader	Off	62
Tele Macro	Off	63
Cont. Shot	Off	63
Wind Cut	Off	64
Digital Zoom	Off	64
Self Timer	Off	65
Time Lapse REC	Off	66
Quick View	On	68
Guideline	Off	69

### Playback menu items

Operation mode		Video (Thumbnail)	Video (Single)	Photo (Thumbnail/Single)	Default value	Page
Items						
	Play Option	●	●	X	Play All	70
	Highlight	●	●	X	-	71
	Playlist	●	X	X	-	93
	Delete	●	●	●	-	97
	Protect	●	●	●	Off (Single)	96
	Story-Board Print	●	●	X	-	73
	Copy *	●	●	●	-	98
Edit	Divide	●	●	X	-	90
	Combine	●	X	X	-	91
	File Info	●	●	●	-	73
	Slide Show Start	X	X	●	-	47
	Slide Show Option	X	X	●	-	48
	Print Mark (DPOF)	X	X	●	-	99

● : available, X : not available



Items marked with \* are available only with HMX-H203/H204/H205 models.

## Setting menu items

Items	Default value	Page
Storage Type *	Internal Memory	74
Storage Info *	-	74
Card Info **	-	74
Format	-	75
File No.	Series	76
Time Zone	Home	76
Date/Time Set	JAN/01/2010 12:00 AM (Summer Time : Off)	77
Date Type	JAN/01/2010	77
Time Type	12 Hr	78
Date/Time Display	Off	78
LCD Brightness	18	79
Auto LCD Off	Off	79
Beep Sound	On	80
Shutter Sound	On	80
Auto Power Off	5 Min	81
Quick On STBY	5 Min	82
PC Software	On	83
USB Connect	Mass Storage	84
HDMI TV Out	Auto	84
Analog TV Out	Component 1080i	85
TV Connect Guide	-	86
TV Display	On	87
Default Set	-	87
Language	-	88
Demo	On	88
Anynet+(HDMI-CEC)	On	89



- These Items and Default values may be changed without notice.
- There are some functions you cannot activate simultaneously in the menu. You cannot select the grey menu items.
- Items marked with \* are available only with HMX-H203/H204/H205 models.
- Items marked with \*\* are available only with HMX-H200/H220 models.
- The time type may change depending on the language you selected.

# advanced recording

## QUICK MENU ITEMS

Your camcorder provides quick menus consisting of the functions used frequently. Pressing the **Q.MENU** button lets you change settings directly.

### Recording menu items

Items	Default value	Page
Storage *	Int. Memory	27
iSCENE	Auto	53
Resolution	1080/60i, 2880x1620	54, 55
WB	Auto	56
EV	0	59
Focus	Auto	60

### Playback menu items

Operation mode		Video (Thumbnail)	Video (Single)	Photo (Thumbnail/Single)	Page
Item					
Storage *		●	●	●	27
Highlight		●	●	X	71
Playlist		●	X	X	93
Delete		●	●	●	97
Protect		X	●	●	96
Edit	Divide	●	●	X	90
	Combine	●	X	X	91
File Info		●	●	●	73
Slide Show		X	X	●	47
Print Mark		X	X	●	99

● : available, x : not available



Items marked with \* are available only with HMX-H203/H204/H205 models.

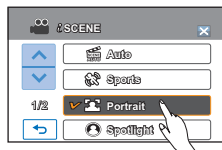
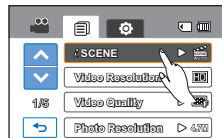
# iSCENE

Using the iScene function, you can select a setting that matches the scene you are shooting (Sports, Portrait, etc.). Based on your selection, the camcorder sets the appropriate shutter speed and aperture automatically for optimal recording.

## PRECHECK!

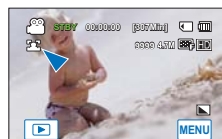
Select the record mode by pressing the **MODE** button. ➡ page 23

1. Touch the Menu (MENU) tab → “iSCENE.”
2. Touch the desired submenu item.
  - To change the current page, touch the up (▲)/down (▼) tab.
3. To exit the menu, touch the Exit (X) or Return (↩) tab.



### Submenu items

- **Auto**: Under normal conditions, recording naturally.
- **Sports** (🏆): Recording people or objects in motion.
- **Portrait** (👤): Recording skin color naturally.
- **Spotlight** (☀️): When strong light strikes the object.
- **Beach/Show** (🌊): Where reflection of light is intense such as a snowfield or beach.
- **Food** (🍴): To make food more colorful.
- **Candle Light** (🕯️): Recording in the soft glow of candlelight.
- **Indoor** (💡): Indoor with artificial light.



When you specify “**Aperture:Manual**” or “**Shutter:Manual**,” the iSCENE mode is cancelled.  
(Manual Aperture/Manual Shutter priority)

# advanced recording

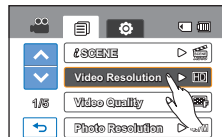
## Video Resolution

You can select the resolution of the video to be recorded.

### PRECHECK!

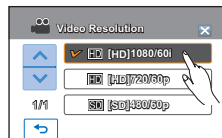
Select the record mode by pressing the **MODE** button. ➤page 23

1. Touch the Menu (**MENU**) tab → “**Video Resolution.**”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (**⏏**) or Return (**↩**) tab.



### Submenu items

- **[HD]1080/60i** (**[HD]**): Records in the HD (1920x1080/60i) format.
- **[HD]720/60p** (**[HD]**): Records in the HD (1280x720/60p) format.
- **[SD]480/60p** (**[SD]**): Records in the SD (720x480/60p) format.



- “60i” indicates the camcorder will record in interlaced scan mode at 60 fields per second.
- “60p” indicates the camcorder will record in progressive scan mode at 60 frames per second.
- Recorded files are encoded using Variable Bit Rate (VBR). VBR is an encoding system that automatically adjusts the bit rate according to the recording image.
- The available video recording time differs according to the video resolution you select.

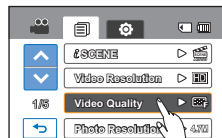
## Video Quality

You can select the quality of the video to be recorded.

### PRECHECK!

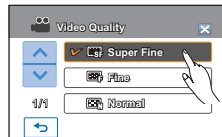
Select the record by pressing the **MODE** button. ➤page 23

1. Touch the Menu (**MENU**) tab → “**Video Quality.**”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (**⏏**) or Return (**↩**) tab.



### Submenu items

- **Super Fine** (**[SF]**): Records videos at the super fine image quality.
- **Fine** (**[F]**): Records videos at the fine image quality.
- **Normal** (**[N]**): Records videos at the normal image quality.






The higher the resolution is, the shorter the available recording time. On the other hand, the lower the resolution, the longer the available recording time.

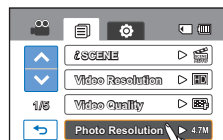
# Photo Resolution

You can select the resolution of the photo to be recorded.



## PRECHECK!

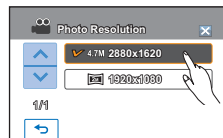
Select the record mode by pressing the **MODE** button. ➡ page 23

1. Touch the Menu () tab → “Photo Resolution.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit () or Return () tab.



### Submenu items

- **2880x1620** (): Records in the 2880x1620 resolution.
- **1920x1080** (): Records in the 1920x1080 resolution.






- The number of recordable images differs according to the photo resolution you select.
- Photos that are recorded on your camcorder may not playback properly on other digital devices that do not support these photo sizes.

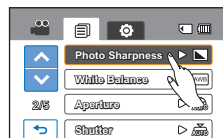
# Photo Sharpness

This function lets you create a sharper or softer image by processing the image after you've recorded the photo.




## PRECHECK!

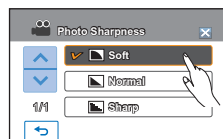
Select the record mode by pressing the **MODE** button. ➡ page 23

1. Touch the Menu () tab → “Photo Sharpness.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit () or Return () tab.



### Submenu items

- **Soft** (): Smooths the edges of photo images. Makes image softer.
- **Normal** (): The photo images appear with sharp edges and are suitable for printing.
- **Sharp** (): Sharpens the edges in photo images further.



# advanced recording

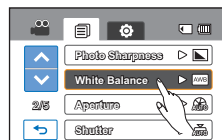
## White Balance

Using the White Balance function, you can select a setting that matches the light illuminating the subject you are shooting (Daylight, Fluorescent, etc.). Based on your selection, the camcorder automatically adjusts the color of the subject so the colors in your recording look natural.

### PRECHECK!

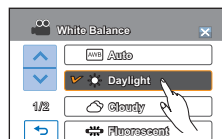
Select the record by pressing the **MODE** button. ➡ page 23

1. Touch the Menu (MENU) tab → “White Balance.”
2. Touch the desired submenu item.
  - To set the white balance manually, see page 57.
3. To exit the menu, touch the Exit (X) or Return (RETURN) tab.



### Submenu items

- **Auto:** Controls the white balance automatically depending on the recording conditions.
- **Daylight** (☀): Controls the white balance according to the outdoor lighting.
- **Cloudy** (☁): For recording in the shade or cloudy weather.
- **Fluorescent** (💡): For recording under white fluorescent lights.
- **Tungsten** (💡): For recording under halogen lamps and incandescent lights.
- **Custom WB** (🎚): You can manually adjust the white balance to match the light source or situation.



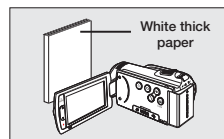
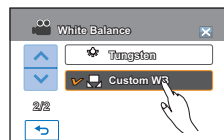
### Understanding White Balance

White balance (WB) is the process of removing unrealistic color casts, so that objects which appear white are rendered white in your image. Proper white balance has to take into account the “color temperature” of a light source, which refers to the relative warmth or coolness of white light.



## To set the white balance manually

1. Touch the Menu (MENU) tab → “White Balance” → “Custom WB.”
  - The “(WB) Set White Balance” indicator is displayed.
2. Fill the screen with a white object, and touch the (OK) tab.
  - The white balance setting is stored.
3. To exit the menu, touch the Exit (X) or Return (RETURN) tab.
  - The stored white balance setting will be applied the next time you record.



- When setting the white balance manually, the subject must be white, otherwise, your camcorder may not detect an appropriate setting value.
- The adjusted setting remains until you set the white balance again.
- During normal outdoor recording, setting White Balance to “Auto” may provide better results.
- Cancel the digital zoom function for clear and precise white balance setting.
- Reset the white balance if light conditions change.




# advanced recording

## Aperture




The camcorder adjusts the aperture automatically depending on the subject and recording conditions. You can also manually adjust the aperture.

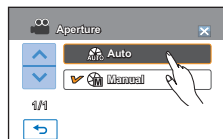
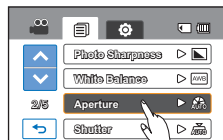
### PRECHECK!

Select the record by pressing the **MODE** button. ➔page 23

1. Touch the Menu () tab → “Aperture”.
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit () or Return () tab.

### Submenu items

- **Auto:** Sets the aperture value automatically.
- **Manual** ( **FX**): Touch decrease () or increase () tab to adjust the aperture. You can choose from the following settings:  
F1.8, F2, F2.8, F4, F5.6, F8, F11, F16



### Understanding Aperture

You can adjust the aperture value to control the amount of light reaching the image sensor.

You need to adjust the aperture value in the following cases:

- When you are shooting against the light or when the background is too bright.
- When you are shooting on a reflective natural background such as at the beach or when skiing.
- When the background is overly dark (for example, scenery at night).



When you specify “Aperture: Manual,” the **iSCENE** mode is cancelled and “Shutter” is set to “Auto” automatically. (Manual Aperture priority)

# Shutter

The camcorder automatically sets the shutter speed depending on the scene's brightness. You can also manually adjust the shutter speed.

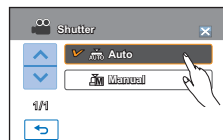
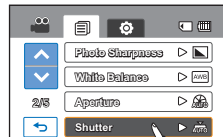
## PRECHECK!

Select the record by pressing the **MODE** button. ➡ page 23

1. Touch the Menu (MENU) tab → "Shutter."
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (X) or Return (RETURN) tab.

### Submenu items

- **Auto:** The camcorder automatically sets the appropriate shutter speed value.
- **Manual (M 1/XX):** Touch decrease (◀) or increase (▶) tab to adjust the setting values. You can choose from the following settings: 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, or 1/10000.



- The image may not seem smooth when you set a high shutter speed.
- When recording with a shutter speed of 1/1000 or higher, make sure the sun is not directly shining into the lens.
- When you specify "Shutter: Manual," the tSCENE mode is cancelled and "Aperture" is set to "Auto" automatically.
- (Manual Shutter priority)
- For photos, the maximum shutter speed is 1/2000.

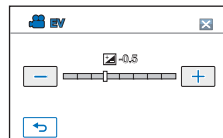
# EV

Using the EV function, you can manually adjust the video and photo image brightness.

## PRECHECK!

Select the record mode by pressing the **MODE** button. ➡ page 23

1. Touch the Menu (MENU) tab → "EV."
2. Touch the decrease (−) or increase (+) tab to adjust the setting values. You can choose from the following settings:
  - EV values (EV): -2.0, -1.5, -1.0, -0.5, 0, +0.5, +1.0, +1.5, +2.0
3. To exit the menu, touch the Exit (X) or Return (RETURN) tab.



### Understanding EV (Exposure Value)

Exposure value is the total amount of light allowed to fall on the photographic medium (Image sensor) during the process of taking photos or videos.






# advanced recording

## Focus





The camcorder usually focuses on a subject automatically (auto focus). When you turn the camcorder on, focus is always set to automatic. You can also manually focus a subject.

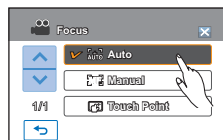
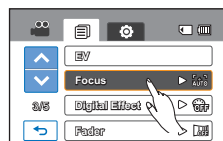
### PRECHECK!

Select the record mode by pressing the **MODE** button. ➔page 23

1. Touch the Menu () tab → **"Focus."**
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit () or Return () tab.

### Submenu items


- **Auto:** In most situations, it is better to use the automatic focus feature, as it enables you to concentrate on the creative side of your recording.
- **Manual ():** You may need to focus manually under certain conditions that make automatic focusing difficult or unreliable.  
Touch () or () tab to adjust the focus.
- **Touch Point ():** To focus on a subject shown on the LCD screen, simply touch the subject on the screen.




## Focusing manually during recording





This camcorder automatically focuses a subject from close-up to infinity. However, the camcorder may not focus correctly, depending on the recording conditions. In this case, use the manual focus mode.

### Focusing on a nearer subject

To focus on a nearer subject, touch the nearer subject () tab.

### Focusing on a further subject

To focus on a further subject, touch the further subject () tab.

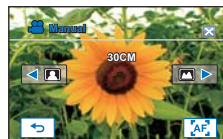
- The nearer or further icon () / () appears in the center when focus adjustment reaches the end.
- The adjusted value is applied right after touching the () or () tab.



<Nearer subject>



<Further subject>



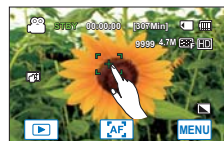
### Tip

You may obtain better results by adjusting the focus manually when recording the following:

- A picture containing several objects, some close to the camcorder, others further away.
- A person enveloped in fog or surrounded by snow.
- Very shiny or glossy surfaces like a car.
- People or objects moving constantly or quickly like an athlete or a crowd.

## Using the touch point

Using the Touch Point function, you can focus on a small section of the picture. Focus on the particular point by touching the desired point.

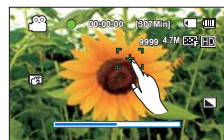


### Tip To activate the touch point with a long touch

You can activate the touch point by pressing the same point for about 1 second on the LCD screen.

#### One-touch photo recording

You can focus on your subject and take a photo with a touch of your finger. When the touch point function is enabled, simply touch the subject shown on the LCD screen that you would like to focus on, then hold for about 3 seconds.



- The Auto Focus (AF) setting is useful when you operate the zoom function because you might not be able to keep accurate focus after the zoom ratio has been changed.
- In the manual focus setting menu screen, auto focus is available by using the AF (AF) tab on the screen. You can return to manual focus by touching the manual focusing tabs.
- When the Touch Point function is enabled, you can touch the AF (AF) tab on the LCD screen to set the "Focus" to "Auto."
- To disable the Touch Point function, set "Focus" to "Auto."

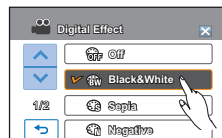
## Digital Effect

Using the Digital Effect function gives your recording a creative look.

### PRECHECK!

Select the record mode by pressing the **MODE** button. ➡ page 23

1. Touch the Menu (MENU) tab → "Digital Effect."
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (X) or Return (RETURN) tab.



### Examples of 5 Digital Effect options



#### Off

Without any Digital Effect, a normal, natural image is displayed during recording or playback.



#### Black & White (BW)

This mode changes the image to black and white.



#### Sepia (SEP)

This mode gives the image a reddish brown look.



#### Negative (NEG)

This mode reverses the colors, creating a negative image.



#### Art (ART)

This mode helps adjust for facial imperfections.

# advanced recording

## Fader

You can give your recording a professional look by using special effects such as fade in at the beginning of a sequence or fade out at the end of a sequence.

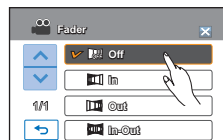
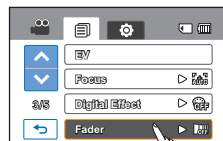
### PRECHECK!

Select the record mode by pressing the **MODE** button. ➔page 23

1. Touch the Menu (MENU) tab → “Fader.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (X) or Return (RETURN) tab.

#### Submenu items

- **Off:** Disables the function
- **In (IN):** As soon as you start recording, it will fade in.
- **Out (OUT):** When the recording is done, it will fade out.
- **In-Out (IN-OUT):** When you start or stop recording, the fader will be function accordingly.



### Recording a video with Fade effect

#### Fade in

Press the **Recording start/stop** button when “Fader” is set to “In.”

Recording starts with a dark screen and then the image and sound are faded in.

#### Fade out

Press the **Recording start/stop** button when “Fader” is set to “Out.”

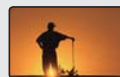
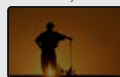
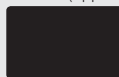
Recording stops as the image and sound are faded out.

#### Fade in-out

Press the **Recording start/stop** button when “Fader” is set to “In-Out.”

Recording starts with a dark screen and then the image and sound are faded in.  
Recording stops as the image and sound are faded out.

Fade In (Approx. 3 seconds)



Fade Out (Approx. 3 seconds)



The camcorder automatically turns the Fader function off after it has been used once. You must reset it each time you want to use it.

## Tele Macro

Using the Tele Macro function, you can get close up images which are created by focusing on a small portion of a large object at a wide angle. The effective focal distance in the Tele Macro mode is between 1 to 50 cm. (0.4 to 19.7 inches)

### PRECHECK!

Select the record mode by pressing the **MODE** button. ➡ page 23

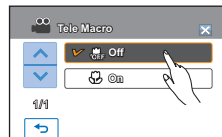
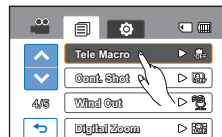
1. Touch the Menu (MENU) tab → “Tele Macro.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (X) or Return (RETURN) tab.

#### Submenu items

- **Off:** Disable the function.
- **On (M):** You can focus on a small portion of a large object at a wide angle.



- When recording in Tele Macro mode, the focus speed may be lowered.
- Use a tripod (not supplied) to prevent camcorder shake in the Tele Macro mode.
- Avoid shadows when recording in the Tele Macro mode.
- As the distance to the subject decreases, focusing area narrows.
- If you can not get proper focus, move the **Zoom** button or **Zoom** lever to adjust the focus.



## Cont. Shot

This function allows you to capture photos in succession to give you more photo-taking opportunities when recording moving subjects.

### PRECHECK!

Select the record mode by pressing the **MODE** button. ➡ page 23

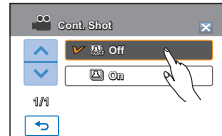
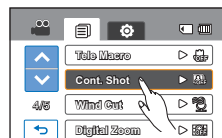
1. Touch the Menu (MENU) tab → “Cont. Shot.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (X) or Return (RETURN) tab.

#### Submenu items

- **Off:** Records only one photo image.
- **On (M):** When pressing the **PHOTO** button, you can take up to 8 photos in one second.



- When an error occurs (internal memory full, etc.) during continuous shot, the recording stops and an error message is displayed.
- When “**Cont. Shot**” is set to “**On**,” the photo resolution is fixed at 1920 x 1080.



# advanced recording

## Wind Cut

Using the Wind Cut function, you can reduce wind noise when recording sound using the built-in microphone.

### PRECHECK!

Select the record mode by pressing the **MODE** button. ➡ page 23

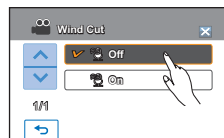
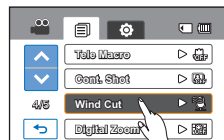
1. Touch the Menu (**MENU**) tab → “Wind Cut.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (**X**) or Return (**↩**) tab.

#### Submenu items

- **Off:** Disables the function.
- **On (🔊):** Reduces wind noise when recording sound using the built-in microphone.



Using the Wind Cut function also removes some low frequency sound with the wind noise.



## Digital Zoom

The digital zoom enables higher zoom magnification than the optical zoom. Digital zoom can electronically magnify the image created by the optical lens up to 4000 times.

### PRECHECK!

Select the record mode by pressing the **MODE** button. ➡ page 23

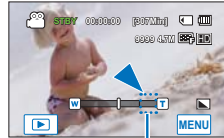
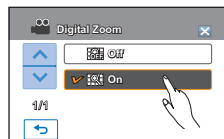
1. Touch the Menu (**MENU**) tab → “Digital Zoom.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (**X**) or Return (**↩**) tab.

#### Submenu items

- **Off :** Disables the function.
- **On :** Enables digital zoom and higher zoom magnification.



With the digital zoom, the image is digitally processed more than in the optical zoom modes. As a result, the image resolution may deteriorate.



The right side of the bar shows the digital zooming zone. The zooming zone appears when you move the zoom lever.



# Self Timer

When the self-timer is enabled, there is a time delay between the time you press the **Record start/Stop** or **PHOTO** button and the time the camcorder takes the picture or records the video. You can use this function when you want to take a shot of many people including yourself.

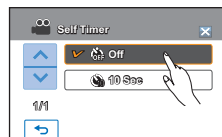
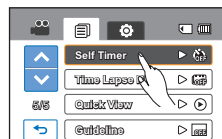
## PRECHECK!

Select the record mode by pressing the **MODE** button. ➡ page 23

1. Touch the Menu (MENU) tab → “Self Timer.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (X) or Return (RETURN) tab.

### Submenu items

- **Off:** Disables the function
- **10 Sec** (🕒): There is a time delay of 10 seconds after you press the **Record Start/Stop** or **PHOTO** button.



The camcorder automatically turns the Self Timer function off after it has been used once. You must turn it on each time you want to use it.

# advanced recording

## Time Lapse REC

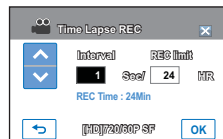
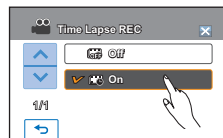
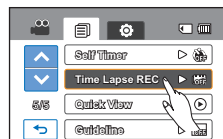
Using the Time Lapse feature, you can program your camcorder to create a time lapse video by recording a series of frames over a set period of time with a set time interval between each frame. The Time Lapse feature lets you create time lapse videos of blooming flowers and similar subjects.

### PRECHECK!

Select the record mode by pressing the **MODE** button. ➔page 23

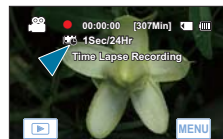
To record in the Time Lapse REC mode, you must set the recording interval between frames and the total time the camcorder will record in Time Lapse, using the menu.

1. Touch the Meun (MENU) tab. ➔ “Time Lapse REC”➔ “On.”
  - The menu screen appears.
2. Touch the desired items (Interval, Rec Limit) and then touch the up (▲) or down (▼) tab to set the values.
3. Touch the (OK) tab to finish the setting.
4. To exit the menu, touch the Exit (X) or Return (↩) tab.
5. After setting the Time Lapse REC mode, press the **Recording start/stop** button.
  - Then the Time Lapse recording starts.
  - Time Lapse REC only supports the [HD]720/60p resolution and Super Fine quality.

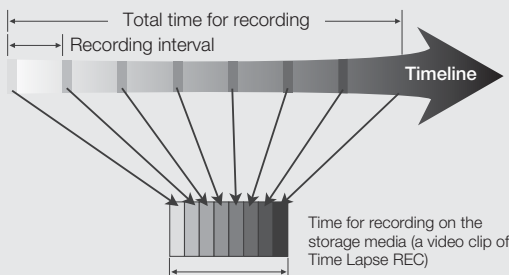


### Submenu items

- **Off:** Disables Time Lapse REC.
- **On (📷):**
  - Interval (“Sec”): Image of the subject is captured at a set interval. Images are automatically shot a frame at a time at the specified interval and stored in the storage media. 1 → 3 → 5 (seconds).
  - REC Limit (“Hr”): Total time camcorder will record in Time Lapse mode. 24 → 48 → 72 (hours).



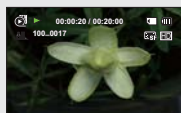
## Example of Time Lapse Recording



The Time Lapse Recording function records image frames at a predefined interval over the total recording time to produce a time-lapse video.

Time Lapse Recording is useful for filming in the following situations:

- Blooming flowers
- A bird building a nest
- Clouds rolling by in the sky



- Time lapse recording mode is released once recording has been finished. To start another Time Lapse Recording, repeat steps 1 through 5.
- 60 captured images compose a video of 1 second length. Since the minimum length of a video your camcorder can save is one second, the interval you set defines how long the time lapse recording should be. For example, if you set the interval to **"30 Sec."** total recording time should be set to at least **1** hour to record a minimum video length of 2 seconds (120 images).
- Once the time lapse recording finishes recording for its total recording time, it switches to the standby mode.
- Press the **Recording start/stop** button if you want to stop the time lapse recording.
- Audio is not recorded during time lapse recording.
- If a video recording fills up 1.8GB of storage memory, a new recording file is automatically started at that point.
- If the battery charge is exhausted during the time lapse recording, the camcorder saves the recording up to that point and switches to standby mode. After some time, it displays a warning message, then turns off automatically.
- If memory runs out during a Time Lapse REC, the camcorder switches to standby mode after saving what was recorded so far.
- During Time Lapse REC, the zoom and focus functions are fixed so that you cannot change the settings. Even if the subject is moved, you cannot change the focus.
- When a time lapse recording starts, the **"Time Lapse Recording"** message blinks on the screen and it appears that the screen has stopped. This is a normal operation; do not remove the power source or memory card from the camcorder.
- We recommend using the AC power adaptor for a time lapse recording.

# advanced recording

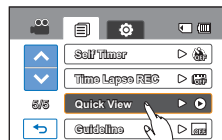
## Quick View

Using the Quick View function, you can view the most recently recorded video and photo images as soon as the recording is finished.

### PRECHECK!

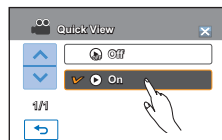
Select the record mode by pressing the **MODE** button. ➡ page 23

1. Touch the Menu (MENU) tab → “Quick View.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (X) or Return (RETURN) tab.

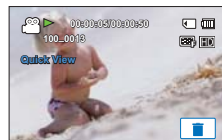


### Submenu items

- **Off:** Quick View icon does not appear on the screen after you finish the recording.
- **On:** Quick View icon appears on the screen as soon as you finish the recording. Touch the Quick View icon to view the most recent video or photo you have recorded. After the Quick View is completed, your camcorder switches back to the standby mode.



**Tip** If you touch the delete (DELETE) tab during Quick View, the file is deleted.



- **The Quick View function is not available under the following conditions:**
  - If the mode has been changed after the recording
  - If the USB cable is connected to the camcorder.
  - If the camcorder has been restarted after the recording
  - After playing Quick View
- For photos recorded with the “**Cont. Shot**,” only the most recent file is played.

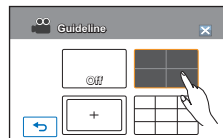
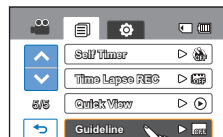
# Guideline

Guideline displays straight line patterns on the LCD screen that can help you set the image composition when recording images. The camcorder provides 3 types of guidelines.




## PRECHECK!

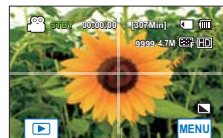
Select the record mode by pressing the **MODE** button. ➡ page 23

1. Touch the Menu (MENU) tab → **"Guideline."**
2. Touch the desired guideline according to the subject.
  - The selected guideline appears on the screen.
3. To exit the menu, touch the Exit (X) or Return (RETURN) tab.



### Submenu items

- **Off**: Disables the function.
- : Placing the subject at the center cross point puts the subject in the middle of the frame.
- : Positioning subjects within the Safety Zone rectangle ensures they will be recorded.
- : For recording multiple subjects. Putting subjects at or near the grid cross points creates a balanced composition.



- Positioning a subject at the cross point of a guideline provides a balanced composition.
- Guidelines are not recorded.

# advanced playback

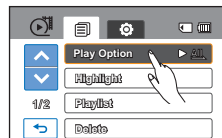
## Play Option

You can select a specific playback option according to your preference.

### PRECHECK!

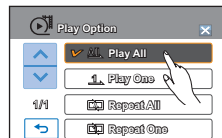
Touch the Play (▶) → HD (HD) or SD (SD) tab on the LCD screen. → page 43

1. Touch the Menu (MENU) tab → “Play Option.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (X) or Return (↩) tab.



### Submenu items

- **Play All** (ALL): Plays video clips in succession starting from the selected video to the last one, then returns to the thumbnail index view.
- **Play One** (1): Plays the selected video once, and then returns to the thumbnail view.
- **Repeat All** (REPEAT): Plays all the video clips repeatedly until the Return (↩) tab is touched.
- **Repeat One** (REPEAT): Plays one selected video repeatedly until the Return (↩) tab is touched.



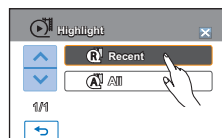
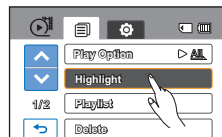
# Highlight

The Highlight function plays a portion of the recorded video or videos at random.

## PRECHECK!

Touch the Play ( ) → HD ( ) or SD ( ) tab on the LCD screen. → page 43

1. Touch the Menu ( ) tab. → “Highlight.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit ( ) or Return ( ) tab.
  - When the highlight view is finished, the video thumbnail view appears.
  - In the highlight play mode, you can adjust the volume by touching the screen. You can also cancel the playback.



### Submenu items

- **Recent** ( ): Shows a portion of the videos that were created within the last 24 hours.
- **All** ( ): Shows a portion of all video files.

## Tip

### Ratio of Highlight playback time to the recording time for a video

Time recorded	Highlight playback time
Less than 5 sec.	Full playback
5 to 30 sec.	Plays 5 seconds.
30 sec. to 5 min.	Plays 5 seconds of each 30 second section.
5 min. to 10 min.	Plays 11 seconds of each 2 minute section.
Over 10 min.	Plays 15 seconds of each 3 minute section.



If you run the Highlight function in the date thumbnail display, Highlight plays random portions of all the files in the selected date set.

# advanced playback

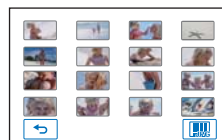
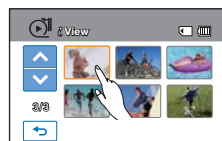
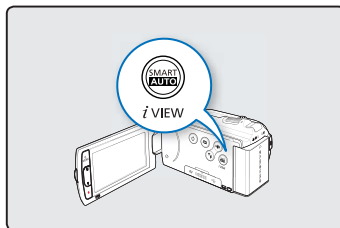
## iVIEW

This function provides a preview of a storyboard to be printed, giving you a digest of a recorded video so you don't need to review the entire video.

### PRECHECK!

Touch the Play (▶) → HD (HD) or SD (SD) tab on the LCD screen. → page 43

1. Press the **iVIEW** button.
2. Touch the desired video.
  - 16 i-Frame images appear on the LCD screen.
  - The images from the video are selected arbitrarily, and comprise the preview of the storyboard to be printed.
  - When you select a thumbnail among 16 i-Frame images, playback starts from the thumbnail.
3. To save the storyboard image on the storage media, touch the Story-board print (🖨️) tab → "Yes."



#### **iView cannot extract 16 i-Frames in the following cases:**

- If thumbnails are displayed by date (📅).
- The recorded video is too short. To extract 16 i-Frame thumbnails from a video, its recorded time should be longer than 32 seconds.



# Story-Board Print

Using Storyboard Printing, you can make a digest image of a video that summarizes its story. This function captures 16 still images arbitrarily from the selected video and makes up one still image of 16 splits you can save into the storage media. It presents a quick overview of your video, helping you to understand the whole narrative of the video.

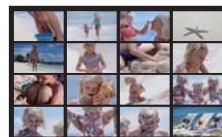
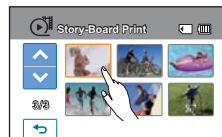
## PRECHECK!

Touch the Play (▶) → HD (HD) or SD (SD) tab on the LCD screen. ➡ page 43

1. Touch the Menu (MENU) tab → **"Story-Board Print."**
2. Touch the desired video → **"Yes."**
  - The printed storyboard image file appears on the LCD screen for a period of time.
  - The images are selected arbitrarily, and comprise a storyboard of one still image with 16-split still frames.
  - You can also find the saved storyboard image in the photo thumbnail view.



- **The Story-Board Print function is not available under the following conditions:**
  - If free space available on the storage media is insufficient.
- **The storyboard printing may not show all 16 i-Frame thumbnails in the following case:**
  - The recorded video is too short. To extract 16 i-Frame thumbnails from a video, its recorded time should be longer than 32 seconds.



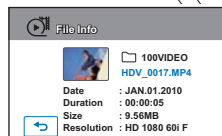
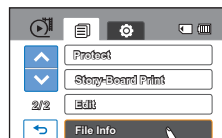
## File Info

You can see the image information for all images.

## PRECHECK!

Touch the Play (▶) tab on the LCD screen to select the play mode. ➡ page 23

1. Touch the Menu (MENU) tab → **"File Info."**
2. Select the file you want to view the file information for.
  - The information of the selected file appears.
3. To exit the menu, touch the Return (⏮) tab.



# system setting

## Storage Type (HMX-H203/H204/H205 only)

You can record videos and photos on the internal memory or a memory card.  
Select the desired storage media before starting recording or playback. ➡ page 27

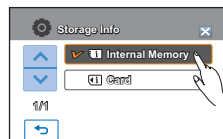
## Storage Info (HMX-H203/H204/H205 only)

This function shows you the storage information of the selected storage media, such as used and available memory space, etc.

### PRECHECK!

Insert a memory card in the camcorder before viewing the storage information.

1. Touch the Menu (MENU) → Setting (⚙️) tab → “Storage Info.”
2. Touch the desired submenu item.
  - Used memory space, available memory space, and recordable time appears. Available space and recordable time depend on the video resolution you’ve selected.
3. To exit the menu, touch the Return (⏪) tab.



### Submenu items

- **Internal Memory:** Displays the storage information of the internal memory.
- **Card:** Displays the storage information of the memory card.

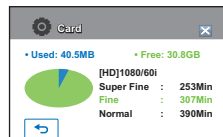
## Card Info (HMX-H200/H220 only)

This function shows you the storage information of the memory card, such as used and available memory space, etc.

### PRECHECK!

Insert the memory card in the camcorder before viewing the storage information.

1. Touch the Menu (MENU) → Setting (⚙️) tab → “Card Info.”
  - Used memory space, available memory space, and recordable time appears. Available space and recordable time depend on the video resolution you’ve selected.
2. To exit the menu, touch the Return (⏪) tab.



# Format

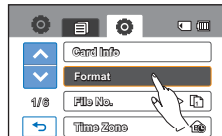
Use this function if you want to delete all files completely or to correct problems on the storage media.

## PRECHECK!

You can completely delete all files and options on the storage media, including protected files. This enables stable speeds and operation when accessing the storage media.

**Be aware that all files and data including protected files will be erased.**

1. Touch the Menu (MENU) → Setting (⚙️) tab → “Format.”
2. Touch the desired submenu item. (HMX-H203/H204/H205 only)
  - A message appears asking about formatting the memory card.
3. Touch “Yes.”
  - The format is executed with a message.



### Submenu item (HMX-H203/H204/H205 only)

- **Internal Memory:** Formats the internal memory.
- **Card:** Formats the memory card.



- Do not remove the storage media or perform any other operation (such as turning off the power) during formatting. Also, be sure to use the provided AC power adapter, as the storage media may be corrupted if the battery becomes exhausted during formatting.
- If the storage media becomes corrupted, format it again.



- **Do not format the storage media on a PC or other device.**  
Make sure to format the storage media on this camcorder.
- A memory card with the protection tab set to lock cannot be formatted. ➡ page 29
- If there is no storage media inserted, it can not be selected and its name will be dimmed on the menu.
- Run memory card format by touching “Format.” (HMX-H200/H220 only)

# system setting

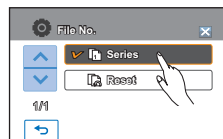
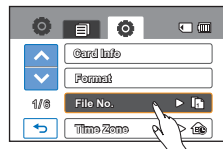
## File No.

File names (numbers) are assigned to recorded images according to the numbering option you select.

1. Touch the Menu (MENU) → Setting (⚙️) tab → “File No.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (⌂) or Return (↩️) tab.

### Submenu items

- **Series** : Assigns file numbers in sequence even after you replace or format the storage media or delete all files. Each file is given a unique file number that allows convenient image management on a PC.
- **Reset** : Resets the file number to 0001 after formatting or deleting all files or inserting a new memory card.



When you set “File No.” to “Series,” each file is assigned a different number to avoid duplicating file names. It is convenient when you want to manage your files on a computer.

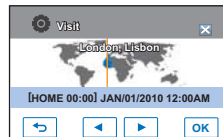
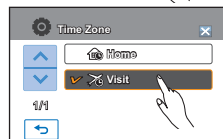
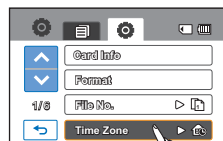
## Time Zone

You can easily set the clock to the local time when using your camcorder while traveling.

1. Touch the Menu (MENU) tab → Setting (⚙️) tab → “Time Zone” → “Visit.”
2. Touch the left (◀️) or the right (▶️) tab to select the visited area.
3. Touch the (OK) tab when the time zone setting is completed.
  - The time zone set value is not applied if you finish the setting with the (↩️) tab without touching the (OK) tab.

### Submenu items

- **Home** : The clock will be used according to your setting on the Date/Time Set menu. Select it when using this camcorder for the first time or when returning the clock to your hometown date/time setting.
- **Visit** (📍): When you visit a different time zone, it allows you to use the local time without changing your hometown time setting. The clock will be adjusted in accordance with the time difference between the two locations.



## Cities used to set the time zone

Cities	Time zone	Cities	Time zone
London, Lisbon	+00:00	Adelaide	+09:30
Rome, Paris, Berlin, Stockholm, Madrid, Frankfurt	+01:00	Guam, Sydney, Brisbane	+10:00
Athens, Helsinki, Cairo, Ankara	+02:00	Solomon Islands	+11:00
Moskva, Riyadh	+03:00	Wellington, Fiji	+12:00
Teheran	+03:30	Samoa, Midway	-11:00
Abu Dhabi, Muscat	+04:00	Honolulu, Hawaii, Tahiti	-10:00
Kabul	+04:30	Alaska	-09:00
Tashkent, Karachi	+05:00	LA, San Francisco, Vancouver, Seattle	-08:00
Calcutta, New Delhi	+05:30	Denver, Phoenix, Salt Lake City	-07:00
Kathmandu	+05:45	Chicago, Dallas, Houston, Mexico City	-06:00
Almaty, Dacca	+06:00	New York, Miami, Washington D.C., Montreal, Atlanta	-05:00
Yangon	+06:30	Caracas, Santiago	-04:00
Bangkok	+07:00	Buenos Aires, Brasilia, Sao Paulo	-03:00
Hong Kong, Beijing, Taipei, Singapore, Manila	+08:00	Fernando de Noronha	-02:00
Seoul, Tokyo, Pyongyang	+09:00	Azores, Cape Verde	-01:00

## Date/Time Set

By setting the date and time, you can display the date and time of the recording during playback. ➡ page 25

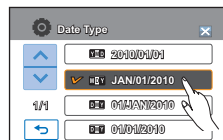
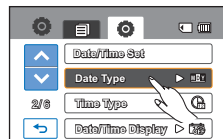
## Date Type

You can set the display format for the date.

1. Touch the Menu (MENU) → Setting (⚙️) tab → “Date Type.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (X) or Return (↩️) tab.

### Submenu items

- **2010/01/01** : Displays the date in the year/month (two-digit)/date format.
- **JAN/01/2010** : Displays the date month/date/year format.
- **01/JAN/2010** : Displays the date date/month/year format.
- **01/01/2010** : Displays the date in the date/month (two-digit)/year format.



This function depends on the “Date/Time Display” setting.

# system setting

## Time Type

You can set the display format for the time.

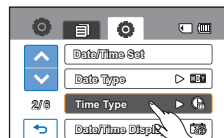
1. Touch the Menu (MENU) → Setting (⚙️) tab → “Time Type.”
2. Touch the desired display option.
3. To exit the menu, touch the Exit (⌂) or Return (↩️) tab.

### Submenu items

- **12Hr** : Displays the time information in 12 hour units.
- **24Hr** : Displays the time information in 24 hour units.



This function depends on “Date/Time Display” setting.



## Date/Time Display

You can set whether or not the date and/or time are displayed on the LCD screen.

### PRECHECK!

Before you use the “Date/Time Display” function, you must set the date and time. ➡ page 78

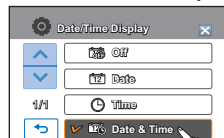
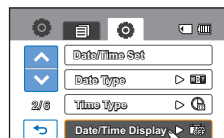
1. Touch the Menu (MENU) → Setting (⚙️) tab → “Date/Time Display.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (⌂) or Return (↩️) tab.
  - The date/time is displayed on the LCD screen according to the selected option.

### Submenu items

- **Off** : Current date/time information is not displayed.
- **Date** : Displays the current date.
- **Time** : Displays the current time.
- **Date & Time** : Displays the current date and time.



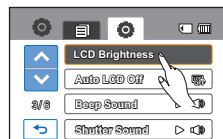
- The date/time will read “JAN/01/2010 12:00 AM” in the following case:
  - When the built-in rechargeable battery is depleted.
- This function depends on “Date Type” and “Time Type” setting.



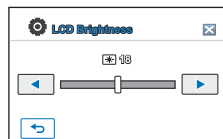
# LCD Brightness

You can adjust the brightness of the LCD screen to compensate for ambient lighting conditions.

1. Touch the Menu (MENU) → Setting (⚙️) tab → “LCD Brightness”
2. Touch the decrease (◀️) or increase (▶️) tab to adjust the setting values as you want.
  - You can set values for LCD brightness between 0 and 35.
3. To exit the menu, touch the Exit (⌂) or Return (↩️) tab.



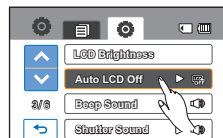
- If the surrounding is too bright, adjust the brightness of the LCD screen.
- Adjusting the LCD screen does not affect the image being recorded.
- A brighter LCD screen consumes more power.



## Auto LCD Off

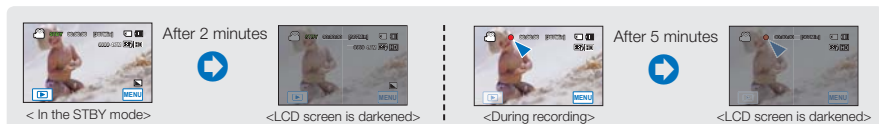
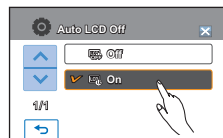
To reduce power consumption, the brightness of the LCD screen is automatically dimmed if the camcorder is idle for more than 2 minutes.

1. Touch the Menu (MENU) → Setting (⚙️) tab → “Auto LCD Off.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (⌂) or Return (↩️) tab.



### Submenu items

- **Off** : Disable the function.
- **On** : When the camcorder is idle for more than 2 minutes in the STBY mode, or for more than 5 minutes when recording a video, the power saving mode starts by dimming the LCD screen.



- When “**Auto LCD Off**” function is enabled, you can press any button on the camcorder to return LCD brightness to normal.
- **Auto LCD Off will be disabled in the following cases:**
  - If the AC power adaptor is connected.
  - While the Demo function is in operation.

# system setting

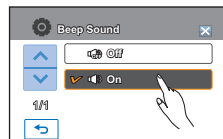
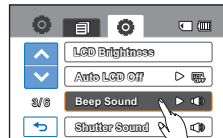
## Beep Sound

The Beep Sound function lets you control whether a beep sounds when you touch certain buttons on the screen.

1. Touch the Menu (MENU) → Setting (⚙️) tab → “Beep Sound.”
2. Touch the desired submenu item.
3. To exit, touch the Exit (⌂) or Return (↩️) tab until the menu disappears.

### Submenu items

- **Off** : Disables the function.
- **On** : You will hear a beep sound when operating buttons or tabs such as the **Power** (⏻) button or **recording start/stop** button.



The Beep Sound is canceled in the following cases:

- During recording and playback.
- When the camcorder has a cable connection (component/AV cable, HDMI cable, etc.).

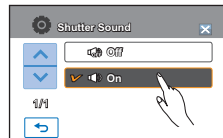
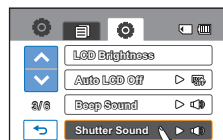
## Shutter Sound

The Shutter Sound function lets you turn the shutter sound that plays when you press the **PHOTO** button on or off.

1. Touch the Menu (MENU) → Setting (⚙️) tab → “Shutter Sound.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (⌂) or Return (↩️) tab.

### Submenu items

- **Off** : Disable the function.
- **On** : You will hear the shutter sound when you press the **PHOTO** button.



The Shutter Sound will not play:

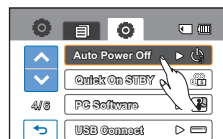
- If you press the **PHOTO** button during video recording.
- When the camcorder has a cable connection (component/AV cable, HDMI cable, etc.).



# Auto Power Off

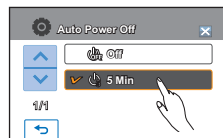
You can set your camcorder to turn off automatically if it is idle for 5 minutes without an operation. This function prevents unnecessary power consumption.

1. Touch the Menu (MENU) → Setting (⚙️) tab → “Auto Power Off.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (⏮️) or Return (⏭️) tab.



## Submenu items

- **Off** : Disable the function.
- **5 Min** : The camcorder turns off if idle for 5 minutes without an operation.



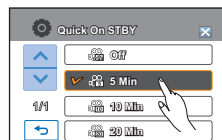
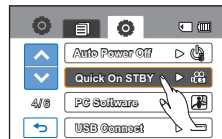
- **Auto Power Off does not work in the following situations:**
  - When the camcorder has a cable connection. (HDMI cable, component/AV cable, USB cable, etc.)
  - While the Quick On STBY function is in operation.
  - While the Demo function is in operation.
  - While you are recording, playing (except pause), or running a photo slide show.
- To turn the camcorder on again, press the **Power** (⏻) button.

# system setting

## Quick On STBY

When you are going to record frequently for an extended time, use the Quick On STBY function. In standby mode, closing the LCD screen starts the Quick On STBY mode to reduce energy consumption. Once you are ready to record again, this function triggers the camcorder to come on quickly from the power saving mode.

1. Touch the Menu (MENU) → Setting (⚙️) tab → “Quick On STBY.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (⏮️) or Return (⏭️) tab.
  - In the standby mode, closing the LCD screen will soon execute the Quick On STBY mode, and then the camcorder turns off after the selected time setting.



### Submenu items

- **Off** : In the standby mode, closing the LCD screen turns off the camcorder.
- **5 Min** : In the standby mode, closing the LCD screen starts the Quick On STBY mode shortly, and then the camcorder turns off after 5 minutes.
- **10 Min** : In the standby mode, closing the LCD screen starts the Quick On STBY mode shortly, and then the camcorder turns off after 10 minutes.
- **20 Min** : In the standby mode, closing the LCD screen starts the Quick On STBY mode shortly, and then the camcorder turns off after 20 minutes.

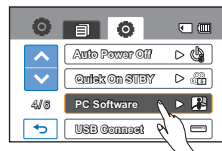


- Turning off the camcorder after use is always recommended to reduce energy consumption. However, as an alternative, you can use the Quick On STBY function under most shooting conditions to reduce energy consumption effectively.
- The mode indicator keeps blinking in the Quick On STBY mode.
- **The Quick On STBY mode is not available under the following conditions:**
  - When the LCD screen is open.
  - When a video cable (HDMI, Component/AV) or the USB cable is connected to the camcorder.
  - When you operate the buttons on the camcorder.

# PC Software

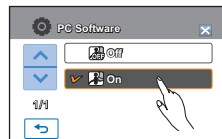
If you set PC Software to On, you can use the PC software built into the camcorder by connecting the camcorder's USB cable to the camcorder and your PC. You can download the stored video and photo images on the camcorder to your PC's hard disk. You can also edit the videos and photos using the PC software.

1. Touch the Menu (MENU) → Setting (⚙️) tab → "PC Software."
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (⏮️) or Return (⏭️) tab.



## Submenu items

- **Off** : Disables the function.
- **On** : The built-in editing software launches when the camcorder is connected to the PC.



- **The PC Software function is not available under the following conditions:**
  - If "USB Connect" is set to "PictBridge"
- To enable the PC Software function, set "USB Connect" to "Mass Storage," in the system setting menu option.
- The PC Software is compatible with the Windows OS only.

# system setting

## USB Connect

You can transfer data to a PC or print photos directly by establishing the USB connection.

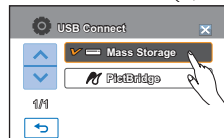
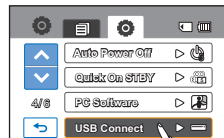
1. Touch the Menu (MENU) → Setting (⚙️) tab → “USB Connect.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (⌂) or Return (↩️) tab.

### Submenu items

- **Mass Storage** : Connect to a PC to transfer videos or photos.  
→ page 115
- **PictBridge** : Connect to a PictBridge printer to print photos directly (when using the PictBridge function). → page 100



Before connecting a USB cable, check whether the current USB mode is appropriate for the function you want to use.



## HDMI TV Out

You can set the HDMI video output to match the TV you have connected.

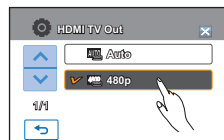
### PRECHECK!

Using the HDMI cable (not supplied), connect the camcorder to your TV. → page 102

1. Touch the Menu (MENU) → Setting (⚙️) tab → “HDMI TV Out.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (⌂) or Return (↩️) tab.

### Submenu items

- **Auto** : The video signals are output in the same format as the recorded file. Use this setting only when connecting to an HDTV.
- **480p** : The recorded file is output in the 720x480p format. Use this setting only when connecting to a standard, analog TV which supports Standard Definition (SD) progressive scan through its the HDMI jacks.



# Analog TV Out

You can set the component or composite video output to match the TV you have connected.

## PRECHECK!

- Using the component/AV cable provided with your camcorder, connect the camcorder to your TV.  
→ page 103~104
- This camcorder provides a two-in-one component/AV cable that works as both a component and AV cable. When using the component/AV cable, you must select the right camcorder output setting for the TV you have connected on the "Analog TV Out" menu.

1. Touch the Menu (MENU) → Setting (⚙️) tab → "Analog TV Out."
2. Touch the desired submenu item.
  - Check the TV type, connection jack, and the resolution of the recorded video before you choose the desired submenu item.
3. To exit the menu, touch the Exit (⏮️) or Return (⏮️) tab.



### Submenu items

- **Component 1080i** (1080i): The recorded file is output in the 1920x1080i format. Use this setting only when connecting to an HDTV by using the component (Y/Pb/Pr and Audio) jacks.
- **Component 480p** (480p): The recorded file is output in the 720x480p format. Use this setting only when connecting to a standard, analog TV which supports Standard Definition (SD) progressive scan through its component (Y/Pb/Pr and Audio) jacks.
- **Component 480i** (480i): The recorded file is output in the 720x480i format. Use this setting only when connecting to a standard, analog TV which only supports interlaced SD (Standard Definition) resolution through its component (Y/Pb/Pr and Audio) jacks.
- **Composite** (COMP): The composite video signals are output via the component/AV cable (blue). Use this setting only when connecting to a regular, analog TV that has no component video jacks.



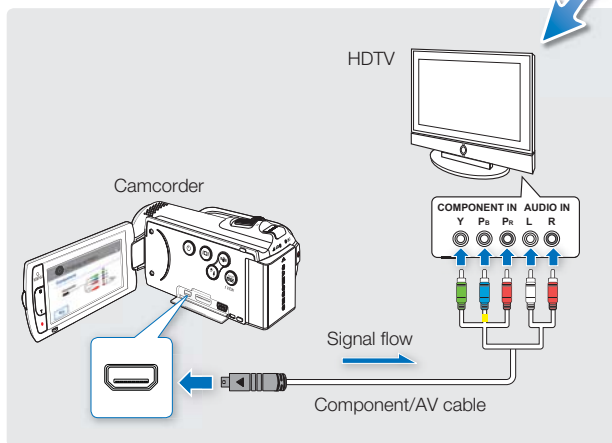
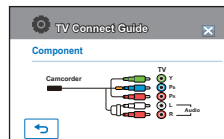
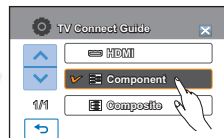
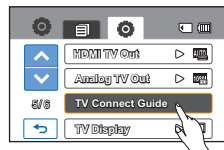
- The Analog TV Out indicator is displayed only when the camcorder is connected to a TV.
- For details on TV specification, refer to the user manual of the connected TV.

# system setting

## TV Connect Guide

You can view the TV Connect Guide before you connect the camcorder to your TV set.

1. Touch the Menu (MENU) tab → Setting (⚙️) tab → “TV Connect Guide.”
2. Touch the desired submenu item.
  - TV Connect Guide appears depending on the selected submenu items.
  - Refer to the TV Connect Guide when you connect your camcorder to a TV.
3. To exit the menu, touch the Exit (⌂) or Return (↩️) tab.



## TV Display

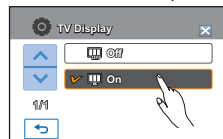
You can enable or disable the On Screen Display (OSD) that appears on the TV screen when you connect your camcorder to a TV.

1. Touch the Menu (MENU) → Setting (⚙️) tab → “TV Display.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (⏮️) or Return (⏭️) tab.



### Submenu items

- **Off** : The OSD (On Screen Display) menus are only shown on the LCD screen.
- **On** : The OSD menus are shown on the LCD screen and the TV screen as well.

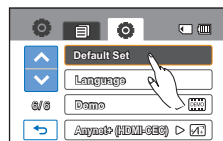


The thumbnail display and demo screens are shown on the TV even if you set “TV Display” to “Off.”

## Default Set

You can restore all menu settings to their default settings.

1. Touch the Menu (MENU) → Setting (⚙️) tab → “Default Set.”
  - A message appears asking for your confirmation.
2. Touch “Yes” if you want all the settings returned to the default.
  - The Time Zone screen appears after all settings return to their defaults.
3. Set the date and time again. ➡ page 25



- Do not turn off the power while using this function.
- Initializing the camcorder settings to factory defaults does not affect recorded images.

# system setting

## Language

You can select a language in which to display the menu and messages. ➡ page 26

## Demo

Demo mode automatically shows you the major functions that are included with your camcorder so that you may use them more easily.

1. Touch the Menu (MENU) → Setting (⚙️) tab → “Demo.”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (⌂) or Return (↩️) tab.

### Submenu items

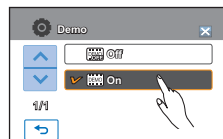
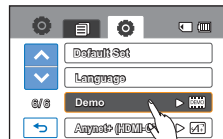
- **Off** : Disable the Demo function.
- **On**: Enables the Demo function.

### Using the Demo function

The Demo mode is canceled in the following cases:

- If the LCD screen is touched.
- If any button is pressed (**Recording start/stop**, **Q.MENU**, **Display** (I/O), **SMART AUTO**, **MODE**, **PHOTO**, etc.).

However, the camcorder will enter the Demo mode automatically after 5 minutes in STBY mode if it is idle for 5 minutes without an operation. If you don't want the Demo function to start, set “Demo” to “Off”.



**The Demo function does not operate in the following case:**

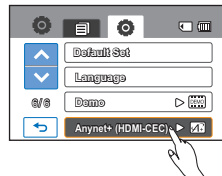
- If “Auto Power Off” is set to “5 Min” and you are using the battery as the main power, the Auto Power Off function will turn the camcorder off before Demo can run.



## Anynet+ (HDMI-CEC)

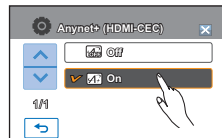
This camcorder supports Anynet+. Anynet+ is an AV network system that lets you control all connected Samsung AV devices with an Anynet+ supported Samsung TV remote control.

1. Touch the Menu (MENU) → Setting (⚙️) tab → “Anynet+ (HDMI-CEC).”
2. Touch the desired submenu item.
3. To exit the menu, touch the Exit (⏏) or Return (↩) tab.
  - When the camcorder is connected to the Anynet+ supported TV, you can operate some functions of the camcorder using the TV's remote control.



### Submenu items

- **Off:** Disable the function.
- **On:** The Anynet+ function is enabled.



- When you turn on the camcorder that is connected to an Anynet+ supporting TV with an HDMI cable, the TV (Anynet+ supported) is automatically turned on. If you do not want to use the Anynet+ function, set the “Anynet+ (HDMI-CEC)” to “Off.”
- For details on the Anynet+ (HDMI-CEC) function, refer to the user manual of Samsung's Anynet+ supported TV.

# editing video clips

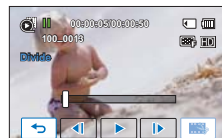
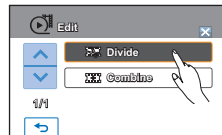
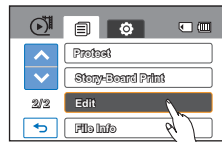
## DIVIDING A VIDEO

You can divide a video into two, and easily delete a section you no longer need. As this function edits the original file, make sure to back up important recordings separately.

### PRECHECK!

- Insert a memory card.
- Set the appropriate storage media. (HMX-H203/H204/H205 only) ↪ page 27
- Touch the Play ([P]) → HD ([HD]) or SD ([SD]) tab on the LCD screen.  
↪ page 43

1. Touch the Menu ([MENU]) tab → “Edit” → “Divide.”
2. Touch the desired video to edit.
  - The selected video is displayed as paused.
3. Search for the point of division by touching the playback control tabs.
  - Playback control tabs: [▶]/[⏏]/[◀]/[▶]/[◀]/[▶]
4. Touch the pause ([⏏]) tab at the point of division, then touch the Cutting ([✂]) tab.
  - A message appears asking for your confirmation.
5. Touch “Yes.”
  - The selected video is divided into two video clips.
  - The second clip of the divided video is displayed as the last thumbnail.
  - After the division, you can partially delete an unnecessary section or combine it with other videos.



Do not eject a memory card or power off while editing a video recorded on the storage media. Doing so may damage the storage media or data.






- You can not divide files that are protected (Ⓢ). Cancel the protect function first. ↪ page 96
- The divided video may drift before or after the division point by approx. 2 seconds.
- **The Divide function is not available under the following conditions:**
  - If the total recorded time of the video is less than 6 seconds.
  - If you try to divide sections without leaving 3 seconds at the beginning and the end.
  - If the video file is recorded in the Time Lapse REC mode.
  - If the remaining memory space is less than 15MB.
  - If the video was recorded or edited by other devices.
- Photos cannot be divided.
- The division function does not work if available memory space in storage is insufficient. Delete unnecessary videos.
- When the video is divided into two, only the first video clip is stored in the playlist again.

# COMBINING VIDEOS




You can combine two different videos. As this function edits the original file, make sure to back up important recordings separately.

## PRECHECK!

- Insert a memory card.
- Set the appropriate storage media. (HMX-H203/H204/H205 only) ↪ page 27
- Touch the Play (  ) → HD (  ) or SD (  ) tab on the LCD screen.  
↪ page 43

1. Touch the Menu (  ) tab → “Edit” → “Combine.”

2. Touch the video thumbnails to be combined.

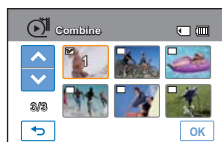
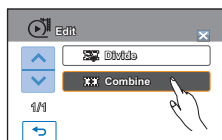
- The (  ) indicator and the order number are displayed on the selected videos. Touching the video thumbnail toggles the image between being selected (  ) or not selected.
- The (  ) indicator does not appear if the video files have different resolutions.

3. Touch the (  ) tab.

- A message appears asking for your confirmation.


4. Touch “Yes.”

- The selected video files are combined in the chosen order and stored as one video.
- The thumbnail of the first video will appear as the thumbnail of the combined video.



Do not eject a memory card or power off while editing a video recorded on the memory card. Doing so may damage the storage media or data.



- You can not combine files that are protected (  ). Cancel the protect function first. ↪ page 96
- The original video will not be preserved.
- The combine function is not available under the following conditions:
  - The Videos are in different resolution formats (for example, videos recorded at “Video Resolution: [HD]1080/60i” and “Video Resolution: [HD]720/60p”) cannot be combined.
  - The file size of the combined videos exceeds 1.8 GB.
  - One or both video files are recorded in the Time Lapse REC mode.
  - If the remaining section of the memory space is less than 15MB.
  - The videos were recorded or edited by other devices.
- Photos cannot be combined.

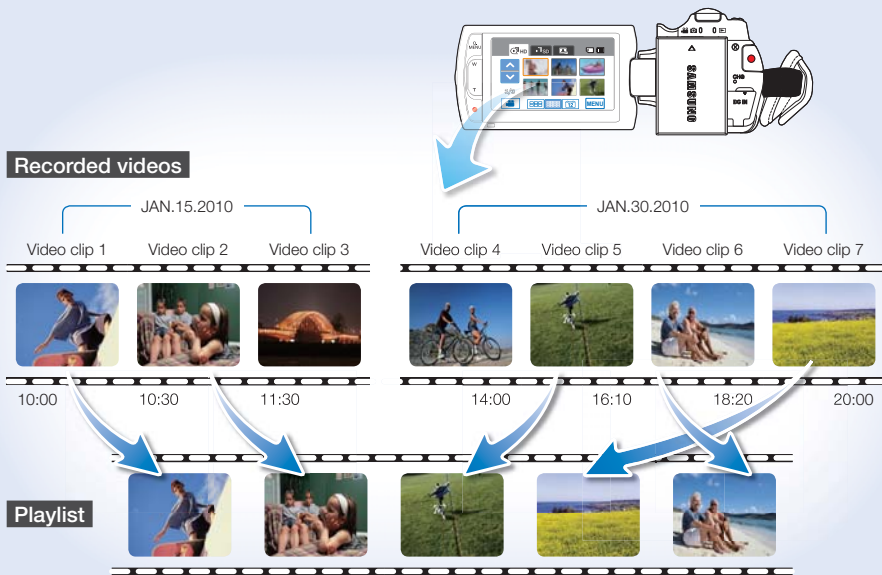
# editing the playlist

## PLAYLIST

### What's a "Playlist?"

You can create a playlist on the same storage media by gathering your favorite scenes from the recorded videos. Adding or deleting videos from a playlist does not affect the original video images.

Example: You have recorded a few scenes on the storage media. You want to save the original recording, but you also want to create a digest by putting your favorite scenes together. In this case, you can create a playlist by selecting your favorite scenes, leaving the original recording as it is.









- One playlist can be created per each resolution set, "HD (High definition)" and "SD (Standard Definition)."
- The maximum number of videos on the playlist: 9999 videos.
- If original videos are deleted, scenes on the playlist created with these videos are also deleted.

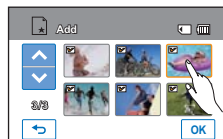
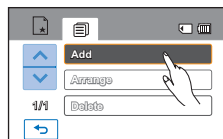
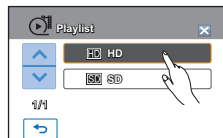
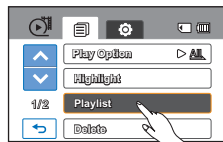
# CREATING THE PLAYLIST

You can create a playlist by gathering your desired videos from the recorded videos.

## PRECHECK!

- Insert a memory card.
- Set the appropriate storage media. (HMX-H203/H204/H205 only) ↪ page 27
- Touch the Play (  ) tab on the LCD screen to select the play mode. ↪ page 23

1. Touch the Menu (  ) tab → **“Playlist.”**
  - The video resolution selection window appears.
2. Touch **“HD”** or **“SD.”**
  - The thumbnail display appears according to resolution you selected.
3. Touch the Menu (  ) tab, then touch **“Add.”**
  - Video thumbnails corresponding to the selected video resolution appear on the screen.
4. Touch the videos you want added to the playlist.
  - The (  ) indicator is displayed on the selected video. Touching the video toggles the image between being selected (  ) and not selected.
5. Touch the (  ) tab.
  - A message appears asking for your confirmation.
6. Touch **“Yes.”**
  - The playlist is created.
  - You can play the playlist in the same manner as you play a video.



While editing the playlist, do not eject the memory card or power off the camcorder. Doing so may damage the storage media or data.



- If available space on the storage is insufficient, you can not create or add a playlist. Delete unnecessary videos.
- You cannot select two different resolution images for placement in the playlist.

# editing the playlist

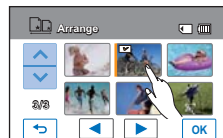
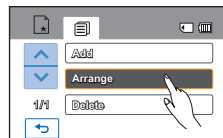
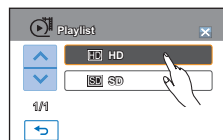
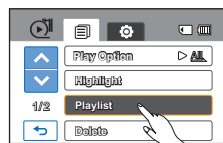
## ARRANGING VIDEOS IN THE PLAYLIST

You can change the order of videos on the playlist.

### PRECHECK!

- Insert a memory card.
- Set the appropriate storage media. (HMX-H203/H204/H205 only) ↗ page 27
- Touch the Play (⏮) tab in the LCD screen to select the play mode. ↗ page 23

1. Touch the Menu (MENU) tab → “Playlist.”
2. Touch “HD” or “SD.”
  - Video thumbnails corresponding to the selected video quality appear on the screen.
3. Touch the Menu (MENU) tab, then touch “Arrange.”
  - The playlist appears.
4. Touch the video you want to move.
  - The (✓) indicator and the selection bar appear on the selected video. Touching the video toggles the image between being selected (✓) and not selected.
5. Touch the previous (⏮)/ next (⏭) tab to move the bar to the position you want, then touch the (OK) tab.
  - A message appears asking for your confirmation.
6. Touch “Yes.”
  - The video moves to the selected position.









While editing the playlist, do not eject the memory card or power off the camcorder. Doing so may damage the storage media or data.

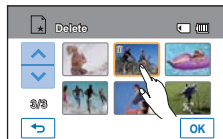
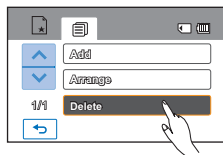
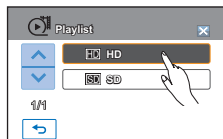
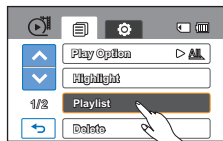
# DELETING VIDEOS FROM THE PLAYLIST

You can delete videos from the playlist.

## PRECHECK!

- Insert a memory card.
- Set the appropriate storage media. (HMX-H203/H204/H205 only) ➔ page 27
- Touch the Play (  ) tab in the LCD screen to select the play mode. ➔ page 23

1. Touch the Menu (  ) tab → “Playlist.”
2. Touch “HD” or “SD.”
  - Video thumbnails corresponding to the selected video quality appear on the screen.
3. Touch the Menu (  ) tab, then touch “Delete.”
  - The playlist appears.
4. Touch the video you want to delete.
  - The (  ) icon and the selection bar appear on the selected video. Touching the video toggles the image between being selected (  ) and not selected.
5. Touch the (  ) tab.
  - A message appears asking for your confirmation.
6. Touch “Yes.”
  - The selected videos are deleted from the playlist.



While editing the playlist, do not eject the memory card or power off the camcorder. Doing so may damage the storage media or data.

# file management

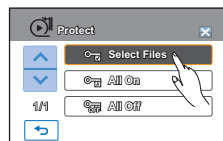
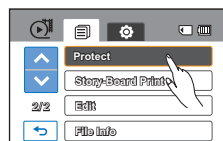
## PROTECTION FROM ACCIDENTAL ERASURE

You can protect important recordings from accidental erasure. The protected videos and photos can not be deleted unless you format the memory card or cancel the protection.

### PRECHECK!

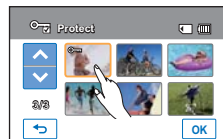
- Insert a memory card.
- Set the appropriate storage media. (HMX-H203/H204/H205 only) ↪ page 27
- Touch the Play ([P]) tab on the LCD screen to select the play mode. ↪ page 23

1. Touch the HD ([HD]), SD ([SD]) or Photo ([P]) tab.
  - Videos or photos appear as thumbnails.
2. Touch the Menu ([MENU]) tab → “Protect.”
3. Touch the desired submenu item.
  - The message that corresponds to the selected option appears.
4. Touch “Yes.”
  - The protection is set to on or off.
  - The (⊞) indicator appears on or disappears from the protected file.



### Submenu items

- **Select Files:** Protects individual images.  
Touch the images to protect from erasure.  
The (⊞) indicator is displayed on the selected images.  
Touching the thumbnail image toggles the image between being selected (⊞) or not selected.  
Touch the ([OK]) tab.
- **All On:** Protects all images.
- **All Off:** Releases the protected images all at once.




- You can also operate this function in the full and single image display mode.
- If the write protection tab on the memory card is set to lock, you cannot set this function.  
↪ page 29







# DELETING FILES




You can erase your recordings one by one, all at once.

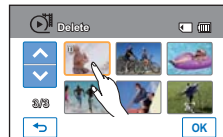
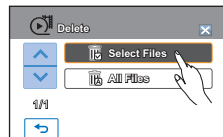
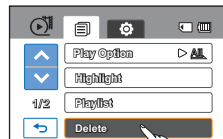
## PRECHECK!

- Insert a memory card.
- Set the appropriate storage media. (HMX-H203/H204/H205 only) ↪ page 27
- Touch the Play (  ) tab on the LCD screen to select the play mode. ↪ page 23

1. Touch the HD (  ), SD (  ) or Photo (  ) tab.
  - Videos or photos appear as thumbnails.
2. Touch the Menu (  ) tab → “Delete.”
3. Touch the desired submenu item.
4. The message that corresponds to the selected option appears.  
Touch “Yes.”
  - The selected image is deleted.

### Submenu items

- **Select Files:** Deletes individual images.  
Touch the images you want to delete.  
The (  ) indicator is displayed on the selected images.  
Touching the thumbnail image toggles the image between being selected (  ) or not selected.  
Touch the (  ) tab.
- **All Files:** Deletes all images.



- Deleted images cannot be recovered.
- Do not eject a memory card or power off while deleting videos recorded on the storage media. Doing so may damage the storage media or data.



- To protect important images from accidental erasure, activate the image protection function in advance. ↪ page 96
- You can not delete protected files. Cancel the protect function first.
- If the write protection tab on the memory card is set to lock, you cannot delete the images. ↪ page 29
- You can also operate this function in the full and single image display mode.
- The delete function does not work if the battery charge is insufficient. We recommend you use the AC adapter to ensure the camera has power continuous power when deleting.

# file management

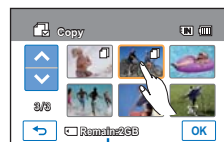
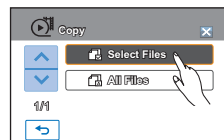
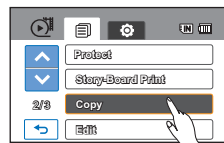
## COPYING FILES (HMX-H203/H204/H205 ONLY)

Videos and photos stored in the internal memory can be copied to the external flash memory card. Copying to the memory card does not delete the originals in the internal memory.

### PRECHECK!

- Insert the memory card in your camcorder.
- Touch the Play (⏮) tab on the LCD screen to select the play mode. ➡ page 23

1. Touch the HD (📺HD), SD (📺SD) or Photo (📷) tab.
  - Videos or photos appear as thumbnails.
2. Touch the Menu (MENU) tab → “Copy.”
3. Touch the desired submenu item.
4. The message that corresponds to the selected option appears.  
Touch “Yes.”
  - The selected images are copied.



Remaining free space in the destination memory card

### Submenu items

- **Select Files:** Copy individual images.  
Touch the images you want to copy.  
The (📺) indicator is displayed on the selected images.  
Touching the thumbnail image toggles the image between being selected (📺) or not selected.  
Touch the (OK) tab.
- **All Files:** Copy all images.



- You can also operate this function in the full and single image display mode.
- If the write protection tab on the memory card is set to lock, you cannot copy the images.  
➡ page 29
- You can not copy a file if the memory card has insufficient free space. Remove unnecessary files before proceeding. ➡ page 97
- The copy function does not work if the battery charge is insufficient. We recommend you use the AC adapter to ensure the camera has continuous power when copying.

# printing photos

## DPOF PRINTING SETTING

DPOF (Digital Print Order Format) lets you select still pictures from the camcorder's memory card to print and set the number of copies to be printed. Your camcorder uses this saved information when you connect it to a DPOF compatible printer to print the pictures.

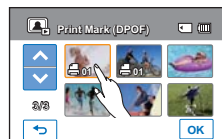
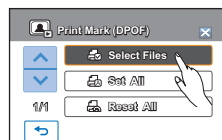
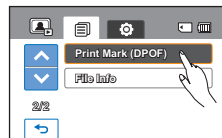
### PRECHECK!

- Insert a memory card in your camcorder.
- Touch the Play ([P]) tab on the LCD screen to select the play mode. ➡ page 23

1. Touch the Photo ([P]) tab.
  - The photo thumbnails are displayed.
2. Touch the Menu ([MENU]) tab → **"Print Mark (DPOF)."**
3. Touch the desired submenu item.
4. The message that corresponds to the selected option appears.  
Touch **"Yes."**
  - The print mark is selected or removed.
  - The ([P] 01) indicator appears on the print-marked photos.

### Submenu items

- **Select Files:** Print-marks individual images.  
The print marks indicator is displayed on the selected images. Touching the thumbnail image toggles the image between being selected ([P] 01) or not selected. Touch the ([OK]) tab.
- **Set All:** Print-marks all images.
- **Reset All:** Removes all the print-marks.



### Understanding DPOF

DPOF (Digital Print Order Format) lets you select still images on the memory card to print and set the number of copies to be printed.

### Tip

In single display mode, you can set the number of prints by using the decrease ([−]) or increase ([+]) tab.

- Touch the Menu ([MENU]) tab → **"Print Mark (DPOF)"** → decrease ([−]) or increase ([+]) tab.
- You can set the number of prints from 0 to 99 for each image.



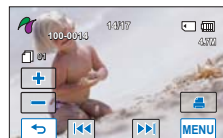
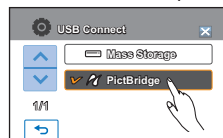
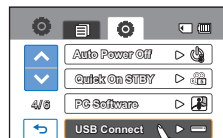
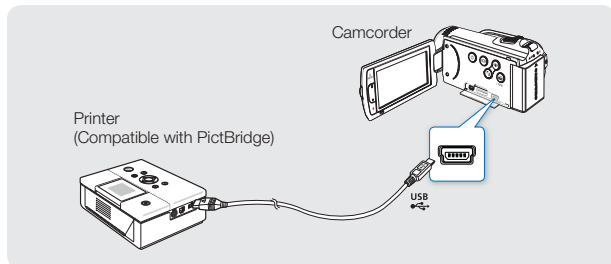
- When you select the **"Set All"** option, the number of copies to be printed is set to 01.
- Selecting the **"Set All"** or **"Reset All"** options may take a long time depending on the number of the selected copies.

# printing photos

## DIRECT PRINTING WITH A PICTBRIDGE PRINTER

You can print photos directly by connecting this camcorder to a PictBridge printer (sold separately) and a USB cable.

1. Touch the Menu (MENU) → Setting (⚙️) tab → “USB Connect” → “PictBridge.”
2. Use a USB cable to connect your camcorder to the printer.
3. Turn your printer power on.
  - The photo thumbnails appear.
4. Touch the photos to be print, then touch the Print (🖨️) tab.
  - The selected photo is printed.



### To set the number of prints

Touch the decrease ([-]) / increase ([+]) tab to set the number of copies to print.

- The number of copies is set.

### To cancel the print setting

Touch the Return (⏮️) tab on the LCD screen.

### To stop printing after printing starts

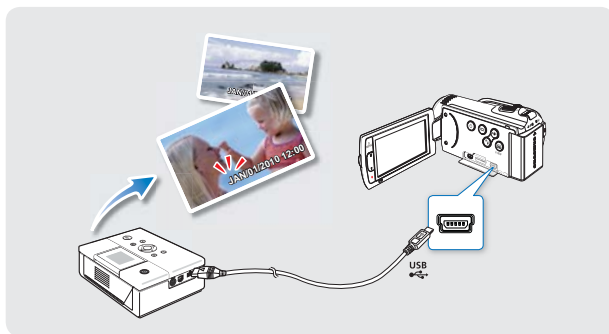
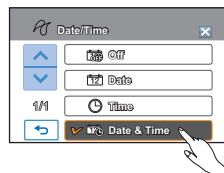
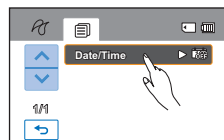
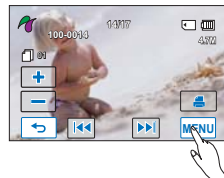
Touch “Cancel” on the screen.



- If the camcorder is connected to a printer while “USB Connect” is set to “Mass Storage,” the message “Fail USB Connecting Change ‘USB Connect’” appears. Set the “USB Connect” to the “PictBridge”, and then connect the USB cable again.
- Use the supplied USB cable.

## To set the date/time imprint

1. In the printer mode, touch the Menu (MENU) tab.
  - The print options appear on the screen.
2. Touch “Date/Time.”
3. Touch the desired submenu item.
  - The selected date and time display option is set.
4. To exit the menu, touch the Exit (X) or Return (RETURN) tab.
  - The selected date and time will be printed on the photos.



- The date/time imprint option may not be supported by all printers. Check with your printer manufacturer. The “Date/Time” menu cannot be setup if the printer does not support this option.
- PictBridge™ is a registered trademark of CIPA (Camera & Imaging Products Association), an image transfer standard developed by Canon, Fuji, HP, Olympus, Seiko Epson, and Sony.
- Use the AC power adaptor to power your camcorder during PictBridge direct printing. Turning the camcorder off during printing might damage data on the storage media.
- Video images cannot be printed.
- Photos recorded on other devices cannot be printed.
- Various printing options are available depending on the printer. Refer to the printer's user manual for details.

# connecting to a TV

## CONNECTING TO A HIGH DEFINITION TV

You can enjoy High Definition (HD) quality videos, recorded in “[HD]1080/60i” or “[HD]720/60p” resolution using an HDTV. The connection methods and quality of the image viewed on the TV screen can differ depending on the type of TV you’ve connected, and the connectors used. To playback high quality videos from your camcorder, check if your TV set supports the “[HD]1080/60i” resolution. This HD camcorder supports HDMI and component output. Both can deliver high-definition video.

### PRECHECK!

- Select the HDMI or the component jacks on your TV. For more information about the connectors and the connection methods, refer to the TV’s user manual.
- This HD camcorder provides a two-in-one component/AV cable that functions as a component and AV cable. When using the component/AV cable, you must select the right video output for your TV on the “Analog TV Out” menu. ➔page 85

### Understanding the HDMI cable

HDMI (High Definition Multimedia Interface) is a compact audio/video interface for transmitting uncompressed digital data.

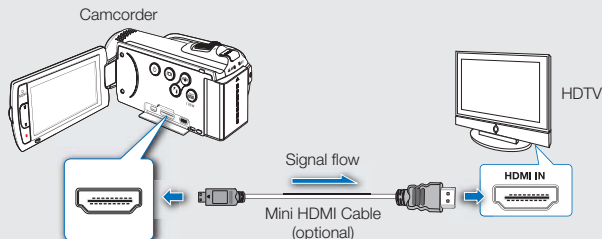
### What is Anynet+ function?

You can use the same remote control for devices that support the Anynet+ function.

You can use the Anynet+ function if the camcorder is connected with an HDMI cable to an Anynet+ supported TV. For more information, refer to the Anynet+ support TV’s user manual.

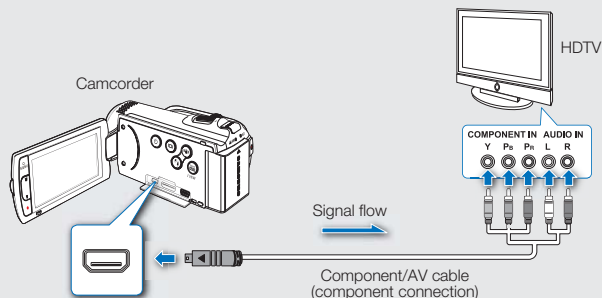
### Using a mini HDMI cable

1. Turn on the camcorder and connect a Mini HDMI cable (optional) to the HDMI jack on your TV and the HDMI jack on your camcorder.
  - When connecting via HDMI, the connected device may not be recognized if the camcorder is turned off.
2. Turn on your TV and set the TV’s input selector to the Input your camcorder is connected to. Refer to the TV’s instruction manual to see how to select the TV input.



## Using a component/AV cable

1. Connect the provided component/AV cable to the camcorder and the **Y-Pb-P<sub>R</sub>** (Video) and **L-R** (Audio) jacks on your TV. Match the colors of the plugs to the colors of the jacks.
  - After the connection is complete, set **"Analog TV Out"** to **"Component 1080i."**  
 ↪ page 85
2. Turn on your TV and set the TV's input selector to the Input your camcorder is connected to. Refer to the TV's instruction manual to see how to select the TV input or source.



If the **P<sub>B</sub>**, **P<sub>R</sub>**, or **Y** jack is not connected correctly, the TV screen may appear red or blue.



- When connecting to a TV using the component/AV cable, match the colors between the cables and the corresponding jacks.
- Videos recorded using the HD camcorder will playback on an HDTV in the original resolution you set in the camcorder. Videos recorded in SD quality cannot playback on an HDTV in the HD quality. For example, videos recorded in HD quality (resolution of "[HD]1080/60i" or "[HD]720/60p") playback in HD quality while the videos recorded in SD quality (resolution of "[SD]480/60p") playback in the SD quality.
- This camcorder comes with the **"TV Connect Guide"** menu which contains TV connection information. If you try to connect the camcorder to a TV (without using the user manual), use the **"TV Connect Guide"** menu function.  
 ↪ page 86
- You must use the provided component/AV cable. Do not use cables from other manufacturers.
- Only a C to A type Mini HDMI cable can be used with this camcorder.
- The HDMI jack on the camcorder can be used for output only.
- If an Anynet+ supported TV is connected to the camcorder, turning on the camcorder may turn the TV's power on. (Aynet+ function) If you don't want this function, set **"Aynet+ (HDMI-CEC)"** to **"Off."** ↪ page 89
- Use only the HDMI 1.3 cable when connecting to the HDMI jack of this camcorder. If the camcorder is connected with other HDMI cables, the screen display may not work.

# connecting to a TV

## CONNECTING TO A REGULAR TV

You can enjoy images recorded with your HD camcorder on a regular TV that supports standard definition. **Images recorded with HD (high definition) image quality (i.e. resolution of "[HD]1080/60i" or "[HD]720/60p") are played back with SD (Standard Definition) image quality.**

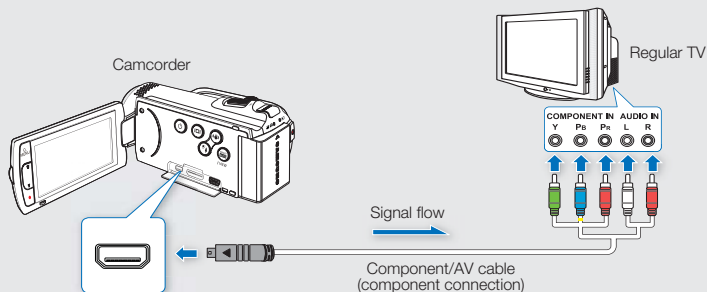
The connection methods and quality of the image viewed on the TV screen can differ depending on the type of TV you've connected, and the connectors used. This HD camcorder supports both component and composite output for standard definition video transfer.

### PRECHECK!

- Check your TV connection jacks and select the connection method your TV supports. For more information about connection jacks and connection methods, refer to the TV user manual.
- This HD camcorder provides a two-in-one component/AV cable that functions as a component and AV (composite) cable. When using the component/AV cable, you must select the right video output for your TV on the **"Analog TV Out"** menu. ➡ page 85

### Connecting a component/AV cable for component output

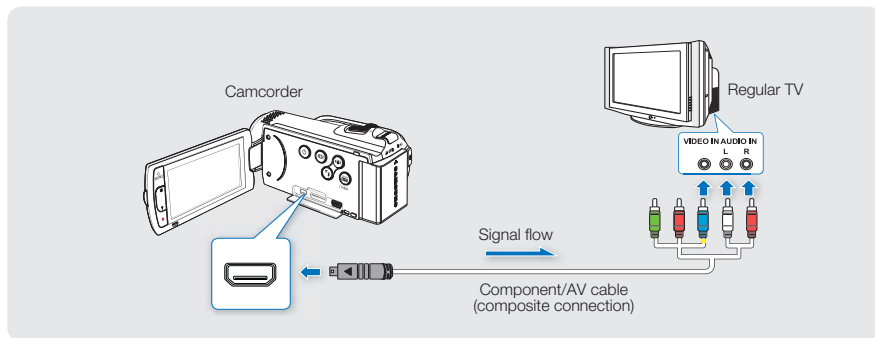
1. Connect the provided component/AV cable to the camcorder and the **Y-Pb-Pa** (Video) and **L-R** (Audio) jacks on your TV. Match the colors of the plugs to the colors of the jacks.
  - After the connection is complete, set **"Analog TV Out"** to **"Component 480p** or **Component 480i."** ➡ page 85
2. Turn on your TV and set the TV's input selector to the Input your camcorder is connected to. Refer to the TV's instruction manual to see how to select the TV input.





## Connecting a component/AV cable for composite output

1. Connect the provided component/AV cable to the camcorder and the **Video** and **L-R** (Audio) on TV. Use the blue plug with the yellow label to connect to the Video input on your TV.
  - After the connection is complete, set **"Analog TV Out"** to **"Composite."** ➔ page 85
2. Turn on your TV and set the TV's input selector to the Input your camcorder is connected to.
  - This is often referred to as "line."
  - Refer to the TV's instruction manual to see how to select the TV input.



If the **P<sub>B</sub>**, **P<sub>R</sub>**, or **Y** jack is connected incorrectly, the TV screen may appear red or blue.



- Check the connection status between the HD camcorder and TV, the TV screen may not deliver the right video information if connected incorrectly.
- When the camcorder is connected to a TV with more than one cable, the output signal is displayed in this order of priority: HDMI ➔ component/AV output.
- Do not use excessive force when connecting the cables.
- For more information about the TV connection jacks and the connecting methods, refer to the TV user manual.
- On some TVs, the Y component input jack also serves as the composite VIDEO jack. If this is the case, follow the directions for composite VIDEO connections in your TV users manual.

# connecting to a TV

## VIEWING ON A TV SCREEN

You can enjoy the enjoy widescreen videos on a HDTV (or a regular TV) after recording videos using the camcorder.

1. You see video from the camcorder on your TV if the connection status is set correctly.

➡ pages 102~105



- If the TV jacks are connected with the right cables.
- If you used component/AV cable, you've set "**Analog TV Out**" correctly.
- If the Input source list is correctly set to view the playback from the camcorder.

2. Select the playback mode on your camcorder and start to playback videos. ➡ page 44



- Adjust the volume to a moderate level. If the volume is too high, the video information may include noise.
- If the "**TV Display**" is set "**Off**," the TV screen does not include the OSD (On Screen Display) menus. ➡ page 87
- You will only hear audio from the camcorder on your TV in the video play mode.

### Playback on a TV

Recording ratio	Wide (16:9) TV	4:3 TV
Images recorded in a 16:9 ratio <ul style="list-style-type: none"><li>• Video images</li><li>• Photo images</li><li>• Photo capture images</li></ul>		

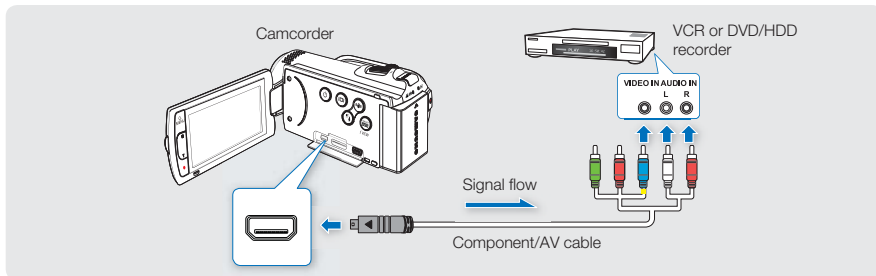
# dubbing videos

## DUBBING TO A VCR OR DVD/HDD RECORDER

You can dub images played back on your camcorder to other recording devices, such as VCRs or DVD/HDD recorders. Be sure to connect your camcorder to the wall outlet using the supplied AC power adaptor for this function.

### PRECHECK!

Dubbing transfers analog video data through a component or composite connection. You must use the supplied component/AV cable.



1. Turn on your camcorder and touch the play (⏮) tab.
  - Set the camcorder's output signal to component or composite using the **"Analog TV Out"** function. ➡ page 85
2. Insert the recording media in the recording device.
  - If your recording device has an input selector, set it to the input mode.
3. Connect your camcorder to the recording device (VCR or DVD/HDD recorder) with the supplied component/AV cable (composite connection).
  - Connect your camcorder to the input jacks of the recording device.
4. Start the playback on your camcorder, and record it on the recording device.
  - Refer to the instruction manuals supplied with your recording device for details.
5. When dubbing is finished, stop the recording device and then your camcorder.



- You can dub videos recorded on this camcorder by connecting the supplied component/AV cable to a VCR or DVD/HDD recorder. All the recorded videos will be dubbed with SD (standard definition) image quality, regardless of the recording resolution (HD/SD).
- You cannot dub to a recorder with an HDMI cable.
- To copy an HD quality video in HD (high definition) image quality, use the built-in software of your camcorder, and copy the video to your computer.
- Since dubbing is performed via analog data transfer, the image quality may deteriorate.
- To hide the screen indicators (such as a counter, etc.) on the screen of the connected monitor device connected, set **"TV Display: Off."** ➡ page 87
- When you are connecting your camcorder to a monaural device, connect the blue plug of the component/AV cable to the video input jack, and the red (right channel) or the white (left channel) plug to the audio input jack on the device.

# using with a Windows computer

## CHECKING YOUR COMPUTER TYPE

This chapter explains how to connect the camcorder to a computer using the supplied USB cable and how to upload, view, and edit videos and pictures using the built-in Intelli-studio software.

### Check the type of computer you have before connecting the camcorder!!

To be sure you can view your recordings on your computer, you need to check your computer type first. Then, read the section below that pertains to your type of computer.



#### If you have a Windows PC

Connect your camcorder to the computer using the USB cable.

- The built-in editing software, Intelli-studio runs on the PC automatically once the camcorder is connected to Windows computer. (When you've set "PC Software: On"). ➡page 83

Play back or edit your recordings on the computer using the built-in Intelli-studio application.

➡page 112

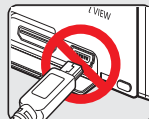
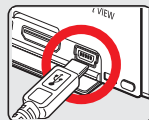
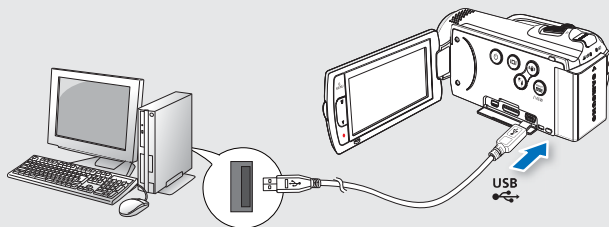
You can also upload your recordings to YouTube or other web sites using Intelli-studio.

➡page 113



#### If you have a Macintosh

- The built-in software on your camcorder, 'Intelli-studio' is not Macintosh compliant.



# WHAT YOU CAN DO WITH A WINDOWS COMPUTER

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You can perform the following functions by connecting your camcorder to your Windows computer with the USB cable and using the Intelli-studio editing software built into your camcorder.

## Main functions

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- Intelli-studio editing software main functions:
  - Playing back recorded videos or photos. ➡ page 112
  - Editing recorded videos or photos. ➡ page 112
  - Uploading the recorded videos and photos to YouTube, Flickr, Facebook, etc. ➡ page 113
- You can transfer or copy the files (videos and photos) saved on your storage media to your computer. (the mass storage function) ➡ page 115

## System requirements

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The following requirements must be satisfied to use the built-in editing software (Intelli-studio):

Items	Requirement
OS	Microsoft Windows XP SP2, Vista, or Windows 7
CPU	Intel® Core 2 Duo® 1.66 GHz or higher is recommended AMD Athlon™ X2 Dual-Core 2.2 GHz or higher is recommended (Notebook: Intel Core2 Duo 2.2GHz or AMD Athlon X2 Dual-Core 2.6GHz or higher recommended)
RAM	1 GB and above recommended
Video Card	nVIDIA Geforce 7600GT or higher Ati X1600 series or higher
Display	1024 x 768, 16-bit color or higher (1280 x 1024, 32-bit color recommended)
USB	USB 2.0
Direct X	DirectX 9.0c or higher



- System requirements listed above are minimum requirements. Even on a system that satisfies the requirements, Intelli-studio may not operate optimally.
- On a slower than recommended computer, video playback may skip frames or operate erratically.
- If the version of DirectX on your computer is lower than 9.0c, install DirectX 9.0c or higher.
- We recommend transferring the recorded video data to a PC before playing back or editing the video data.
- To run Intelli-studio, a laptop computer requires higher system requirements than a desktop PC.

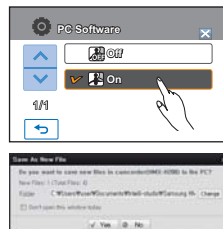
# using with a Windows computer

## USING THE Intelli-studio PROGRAM

Using the Intelli-studio program built into your camcorder, you can transfer video and photo files to your PC using a simple USB cable and edit them on your computer screen. Intelli-studio offers the most convenient way for you to manage your video and photo files.

### Step 1. Connecting the USB cable

1. Set **"USB Connect: Mass Storage"** and **"PC Software: On."**
  - These are the default menu settings.
2. Connect the camcorder to the PC with the USB cable.
  - A new file saving screen appears with the Intelli-studio main window.
  - The removable disk window also appears.
3. Click **"Yes"**. The video/photo uploading procedure starts.  
Click **"Yes"** to confirm.
  - If you do not want to save a new file, select **"No."**



### To disconnect the USB cable

To disconnect the USB cable after completing the file transfer, you must follow these steps:

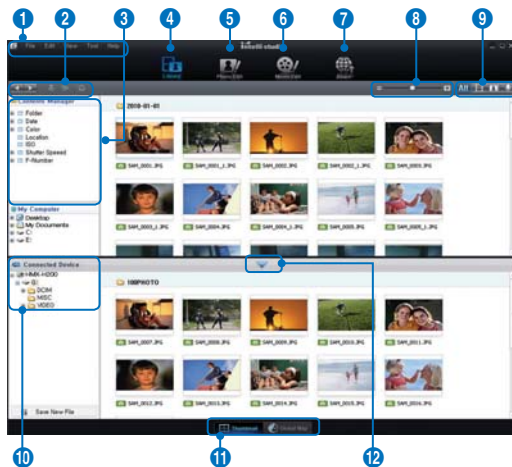
1. Click the **"Safely Remove Hardware icon"** icon on the taskbar.
2. Select **"USB Mass Storage Device,"** and then click **"Stop."**
3. If the **"Stop a Hardware device"** window appears, click **"OK."**
4. Disconnect the USB cable from the camcorder and PC.



- Use the provided USB cable.
- Don't apply excessive force when inserting or extracting the USB cable into/from a USB jack.
- Make sure you insert the USB plug into the USB jack with the plug facing in the correct direction.
- Use the AC power adaptor to power the camcorder when transferring files to your computer.
- When the USB cable is connected, turning the camcorder on or off may cause the PC to malfunction
- If you disconnect the USB cable from the PC or the camcorder while transferring, the data transmission will stop and the data may be damaged.
- If you connect the USB cable to a PC via a USB HUB or simultaneously connect the USB cable along with other USB devices, the camcorder may not work properly. If this occurs, remove all USB devices from the PC and reconnect the camcorder.
- Intelli-studio program may not automatically run. If this occurs, access My Computer or Windows Explorer, open the drive that corresponds to your camcorder, and then run IStudio.exe.

## Step 2. About the Intelli-studio main window

When the Intelli-studio starts up, thumbnails of videos and photos are displayed in the main window.



1. Menu items
2. Shortcut icons
  - ◀ ▶ Navigates files (previous and next).
  - 🖨 Prints selected photo(s).
  - 📍 Views location of selected photo(s) with GPS information.
  - 📁 Registers to Contents Manager.
3. Shows directories of Contents Manager and My Computer
  - Contents Manager: You can classify and manage videos and photos on your computer.
  - My Computer: You can view videos and photos saved in the selected directory of your computer.
4. Switches to Library of the computer and connected camcorder.
5. Switches to Photo Edit mode.
6. Switches to Movie Edit mode.
7. Switches to Share mode.
8. Changes the size of thumbnails.
9. All
  - 📹 Displays video files only.
  - 📷 Displays photo files only.
  - 🗣 Displays voice files only.
10. Selects the connected device.
11. Displays videos and photos in various ways.
  - Thumbnail: Displays video and photo thumbnails
  - Global Map: Displays the location of shooting place with a map.
12. Minimizes the connected device screen.



Intelli-studio is a program commonly used in Samsung camcorders or digital cameras. Some functions may not work depending on the product you purchased.

# using with a Windows computer

## Step 3. Playing back the videos (or photos)

You can play back the recordings conveniently using the Intelli-studio application.

1. Run the Intelli-studio program. ➡ page 110
2. Click the desired folder to display your recordings.
  - Video (or photo) thumbnails appear on the screen, according the selected source.
3. Choose the video (or photo) that you want to play.
  - You can check the file information by moving the mouse pointer over the file.
  - Clicking on a video thumbnail once will show the video playback inside the thumbnail frame, allowing you to search for a desired video with ease.
4. Once you select the desired video (or photo), double-click to play back.
  - Playback starts and playback controls appear.



The following file formats are supported in Intelli-studio:

- Video formats: MP4 (Video: H.264, Audio: AAC), WMV (WMV 7/8/9)
- Photo formats: JPG, GIF, BMP, PNG, TIFF

## Step 4. Editing the videos (or photos)

With Intelli-studio, you can edit the videos or photos in various ways.

(Change Size, Fine-Tuning, Image Effect, Insert Frame, etc.)

- To edit a file using the Intelli-studio, make sure you use a copy of the desired file you've saved on your computer before clicking on the "Movie Edit" or "Photo Edit" icon.

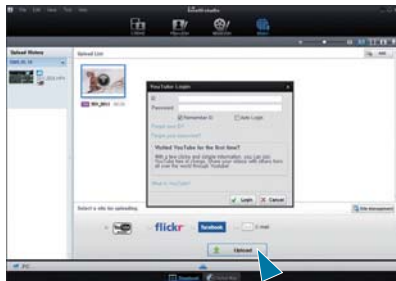
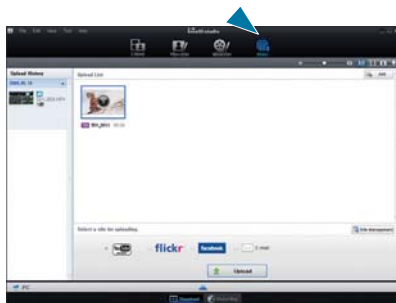




## Step 5. Sharing the videos/photos online

Share your contents with the world by uploading photos and videos directly to a web site with one click.

1. Select the desired videos or photos to share.
2. Click **"Share"** on the Intelli-studio browser.
  - The selected file appears in the sharing window.
3. Click the web site you would like to upload files to.
  - You can choose "YouTube," "Flickr," "Facebook," or the website you specified for your uploading management.
4. Click **"Upload"** to start uploading.
  - A pop up window appears asking for your ID and password.
5. Enter your ID and password to access.
  - Access to the web site contents can be limited depending on your web access environment.



For more information about Intelli-studio use, see the Help Guide by clicking **"Help."**

flickr

facebook

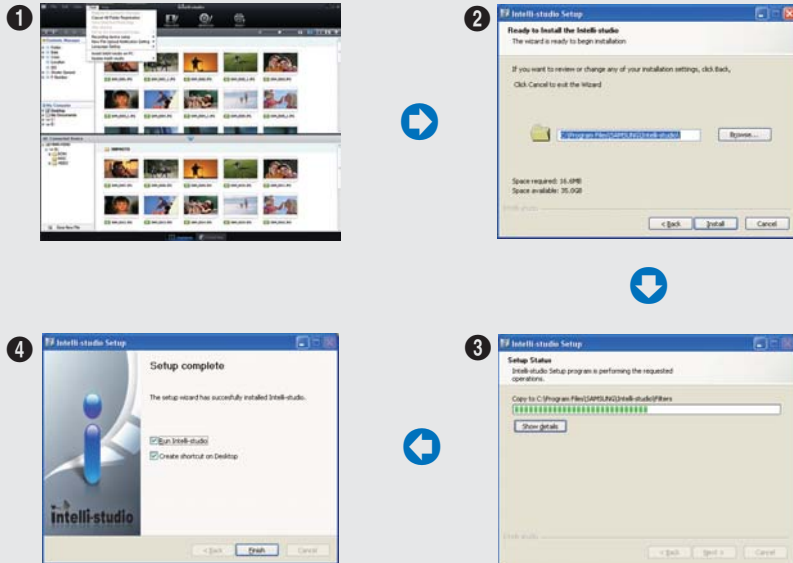


- Flickr is an image and video hosting website, web services suite, and online community platform. In addition to being a popular website for users to share personal photographs, the service is widely used by bloggers as a photo repository.
- <http://www.flickr.com/>
- Facebook is a global social networking website that is operated and privately owned by Facebook, Inc. Users can add friends and send messages, and update their personal profiles to notify friends about themselves. Additionally, users can join networks organized by city, workplace, school, and region.
- <http://www.facebook.com/>
- YouTube is a video sharing website. Users can upload, view, and share personalized video clips. The San Bruno-based service uses Adobe Flash technology to display a wide variety of users-generated contents including video clips, TV clips and music videos, as well as amateur contents such as video blogging and short original videos.
- <http://www.youtube.com/>

# using with a Windows computer

## Installing Intelli-studio application on a Windows computer

- When the Intelli-studio application is installed on a Windows computer, it will run faster. Also, the application can be updated automatically.
- Follow these directions to install Intelli-studio onto your Windows computer:  
Click “**Tool**” → “**Install Intelli-studio on PC**” on the Intelli-studio screen, then follow the steps below.

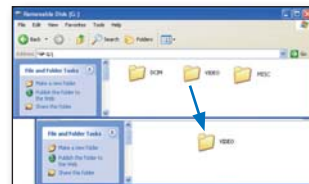
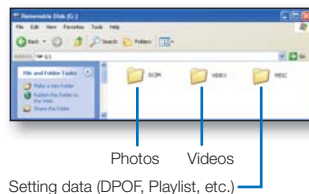


# USING AS A REMOVABLE STORAGE DEVICE

You can copy video or photo files recorded by the camcorder to a Windows computer by connecting the USB cable to the camcorder.

## Viewing the contents of storage media

1. Set **"USB Connect"** to **"Mass Storage"**. ➔ page 84
2. Set **"PC Software"** to **"Off"**. ➔ page 83
3. Select the storage media, if necessary. ➔ page 27
4. Connect the camcorder to the PC with the USB cable.  
➔ page 110
  - The "Removable Disk" or "Samsung" window appears on the PC's screen after a moment.
  - The removable disk appears when connecting a USB.
  - Select "Open folders to view files using Windows Explorer" and then click "OK."
5. The folders in the storage media appear.
  - Different file types are stored in different folders.
6. Select the desired folder (or files) to copy, then drag and drop it into the destination folder.
  - The folder (or files) is copied from the storage media to the PC.



- If the "Removable Disk" window does not appear, confirm the connection (➔ page 110 or perform steps 1 and 4 again).
- If the removable disk does not appear automatically, open the removable disk folder in My Computer.
- If the connected camcorder's disk drive does not open or the context menu that appears when right clicking your mouse (open or browse) appears broken, your computer may be infected by Autorun virus. Please update your anti-virus software to its latest version and scan your disk drives.

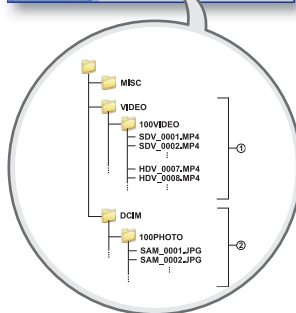
# using with a Windows computer

## Structure of folders and files on the storage media

- The folder and file structure for storage media is as follows:
- File naming follows DCF (Design rule for Camera File System) rules.

### Video file (H.264) ①

- The HD-quality video file names have an HDV\_####.MP4 format.
- The SD-quality videos file names have an SDV\_####.MP4 format.
- The file number automatically increases when a new video file is created.
- A new folder is created when the number of files in a folder exceeds 999~1,000.
- The folder names are given the following order: 100VIDEO, 101VIDEO, etc. The maximum number of the folders is 999.
- The camcorder can create a maximum of 9,999 files in any storage media.



### Photo file ②

- As with video files, the file number automatically increases when a new photo file is created.
- The photos have a SAM\_####.JPG format.
- A new folder is created when the number of files in a folder exceeds 999~1,000.
- The folder names are given the following order: 100PHOTO, 101PHOTO, etc. The maximum number of the folders is 999.
- The camcorder can create a maximum of 9,999 files in any storage media.

## File format

### Video files

- Video files are compressed in H.264 format. The file extension is “.MP4.”
- Refer to page 54 for the video resolution.

### Photo files

- Photo images are compressed in JPEG (Joint Photographic Experts Group) format. The file extension is “.JPG.”
- Refer to page 55 for the photo resolution.



The name of a video file recorded by the camcorder should not be modified, since proper playback by the camcorder requires original folder and file naming convention.

# troubleshooting

Before contacting a Samsung authorized service center, perform the following simple checks. They may save you the time and expense of an unnecessary call.





## WARNING INDICATORS AND MESSAGES

Problems may occur because of the following reasons. Check the information and take corrective action.





### Battery

Message	Icon	Informs that...	Action
Low Battery	-	The battery is almost discharged.	<ul style="list-style-type: none"><li>• Replace with a charged battery or connect the AC power adaptor.</li></ul>
Check the authenticity of this battery	-	The battery can not pass authenticity check.	<ul style="list-style-type: none"><li>• Check whether the battery is authentic. Change to an authentic battery.</li><li>• We recommended you use only genuine Samsung batteries in this camcorder.</li></ul>

### Storage media

Message	Icon	Informs that ...	Action
Internal Memory Full		There is not enough space to record in the internal memory.	<ul style="list-style-type: none"><li>• Delete unnecessary files in the internal memory.</li><li>• Back-up files to your PC or another storage media and delete files.</li><li>• Use a memory card.</li></ul>
Insert card		There is no memory card inserted in the memory card slot.	<ul style="list-style-type: none"><li>• Insert a memory card.</li></ul>
Card Full		There is not enough space to record in the memory card.	<ul style="list-style-type: none"><li>• Delete unnecessary files from the memory card.</li><li>• Back-up files to PC or another storage media and delete files.</li><li>• Change memory card to another one has enough free space.</li></ul>
Card Locked		The write protection tab on an SD or SDHC card has been set to lock.	<ul style="list-style-type: none"><li>• Release write protection tab.</li></ul>


# troubleshooting

Message	Icon	Informs that ...	Action
Card Error		The memory card has some problem and can not be recognized.	<ul style="list-style-type: none"> <li>Change memory card with another one.</li> </ul>
Not Formatted		The memory card is not formatted.	<ul style="list-style-type: none"> <li>Format the memory card using the menu.</li> </ul>
Not Supported Format		The memory card may have been formatted by another device and may still have existing images on it.	<ul style="list-style-type: none"> <li>The image format is not supported. Check the supported file format.</li> <li>Format the memory card using menu item.</li> </ul>
Not Supported Card		The memory card is not supported in this camcorder.	<ul style="list-style-type: none"> <li>Change the memory card with the one recommended.</li> </ul>
Low speed card. Please record at a lower resolution.	-	The memory card does not have enough speed to record at this resolution.	<ul style="list-style-type: none"> <li>Record video at a lower quality.</li> <li>Change memory card with a one.</li> </ul>

## Recording

Message	Icon	Informs that ...	Action
Write Error	-	Some problem occurred while writing data to storage media.	<ul style="list-style-type: none"> <li>Turn the camcorder's power off and on for data recovery.</li> <li>If a file is not recovered, format storage media using menus after back-up important files to PC or another storage media.</li> </ul>
Release the Smart Auto	-	You can not operate some functions manually when Smart Auto is activated.	<ul style="list-style-type: none"> <li>Release Smart Auto function.</li> </ul>
Recovering Data... Don't power off and keep card inside.	-	The file was not created normally.	<ul style="list-style-type: none"> <li>Wait until data recovery is finished.</li> <li>Never turn off the power or eject memory card during recovery or recording.</li> </ul>
The number of video files is full. Cannot record video.	-	The number of video files that can be stored is 9,999.	<ul style="list-style-type: none"> <li>Delete unnecessary files from the storage media.</li> <li>Back up files to your PC or another storage media and delete files.</li> <li>Change to another card which has enough free space.</li> </ul>

## Recording

Message	Icon	Informs that ...	Action
The number of photo files is full. Cannot take a photo.	-	The number of photo files that can be stored is 9,999.	<ul style="list-style-type: none"> <li>Delete unnecessary files from the storage media.</li> <li>Back up files to your PC or another storage media and delete files.</li> <li>Change to another card which has enough free space.</li> </ul>
File number is full. Cannot record video.	-	Folder and file number have reached maximum number and you can not record.	<ul style="list-style-type: none"> <li>Set "<b>File No.</b>" to "<b>Reset</b>" and format the storage media.</li> </ul>
File number is full. Cannot take a photo.	-	Folder and file number have reached maximum number and you can not record.	<ul style="list-style-type: none"> <li>Set "<b>File No.</b>" to "<b>Reset</b>" and format the storage media.</li> </ul>
Check the lens cover		Lens cover is closed.	<ul style="list-style-type: none"> <li>Open the lens cover.</li> </ul>

## Playback

Message	Icon	Informs that ...	Action
Total file size is over 1.8GB.	-	Total file size that can be combined is limited to 1.8GB.	<ul style="list-style-type: none"> <li>Combined files must be less than 1.8GB.</li> </ul>
Select 2 files for combine.	-	You can not combine more than 2 different videos into one.	<ul style="list-style-type: none"> <li>You can only combine 2 different videos into one. Select 2 files only.</li> </ul>
Cannot select different resolution	-	The files you want to combine have different resolutions.	<ul style="list-style-type: none"> <li>You can not combine the files that have different resolutions.</li> </ul>
Read Error	-	Some problems occurred when reading data from the storage media.	<ul style="list-style-type: none"> <li>Format the storage media using the menu after backing up important files to a PC or another storage device.</li> </ul>
Corrupted file	-	This file can not be read.	<ul style="list-style-type: none"> <li>Format the storage media using the menu after back up important files to a PC or another storage device.</li> </ul>
Not enough free space in Internal Memory	-	File editing functions can not be performed because there is not enough free space in the internal memory.	<ul style="list-style-type: none"> <li>Delete unnecessary files from the storage media.</li> <li>Back up files to a PC or another storage media and delete files.</li> </ul>
Not enough free space in Card	-	File editing functions can not be performed because there is not enough free space in the memory card.	<ul style="list-style-type: none"> <li>Delete unnecessary files from the storage media.</li> <li>Back up files to a PC or another storage media and delete files.</li> </ul>

# troubleshooting

## USB

Message	Icon	Informs that...	Action
Fail Printer Connecting Change 'USB Connect'	-	A problem occurred when connecting the camcorder via USB to a printer.	<ul style="list-style-type: none"><li>• Check the USB cable.</li><li>• Try the connection procedure again.</li><li>• Switch "<b>USB connect</b>" function to "<b>PictBridge</b>."</li></ul>
Fail USB Connecting Change 'USB Connect'	-	A problem occurred when connecting the camcorder via USB to a PC.	<ul style="list-style-type: none"><li>• Check the USB cable.</li><li>• Try the connection procedure again.</li><li>• Switch "<b>USB connect</b>" function to "<b>Mass Storage</b>."</li></ul>
Ink Error	-	There is a problem with the ink cartridge.	<ul style="list-style-type: none"><li>• Check the ink cartridge.</li><li>• Put a new ink cartridge in the printer.</li></ul>
Paper Error	-	There is a problem with the paper.	<ul style="list-style-type: none"><li>• Check the paper in the printer. If there is no paper, insert paper.</li></ul>
File Error	-	There is a problem with the file.	<ul style="list-style-type: none"><li>• Your camcorder does not support this file format.</li><li>• Try another file recorded on your camcorder.</li></ul>
Printer Error	-	There is a problem with the printer.	<ul style="list-style-type: none"><li>• Turn the printer's power off and on.</li><li>• Contact the printer manufacturer's service center.</li></ul>
Print Error	-	A problem occurred during printing.	<ul style="list-style-type: none"><li>• Do not remove power source or eject memory card during printing.</li></ul>



### When there is dew condensation, put the camcorder aside for a while before using

- What is dew condensation?  
Dew condensation happens when a camcorder is moved to a location where there is a significant temperature difference from the previous location. The dew condenses on the external or internal parts of the camcorder, and on the reflection lens. If there is dew on or in your camcorder, it may cause the camcorder to malfunction or damage the camcorder when you turn the power on.
- Exactly when does dew condensation occur?  
When you move the camera to a location with a higher temperature than the previous location, or when you move it to a hot area suddenly. Examples:
  - You record outside in cold weather during the winter and then move the camera in indoors.
  - You record outside in hot weather after being indoors or inside a car where the A/C was running.
- What can I do?  
Turn the power off, detach the battery, and leave the camcorder in a dry area for 1~2 hours before using it.



# SYMPTOMS AND SOLUTIONS

If these instructions do not solve your problem, contact your nearest Samsung authorized service center.

## Power

Symptom	Explanation/Solution
The camcorder does not turn on.	<ul style="list-style-type: none"><li>• The battery may not be installed in your camcorder. Insert the battery to the camcorder.</li><li>• The inserted battery may be discharged. Charge the battery or replace it with a charged one.</li><li>• If you use the AC power adaptor, make sure it is properly connected to a wall outlet.</li></ul>
The power turns off automatically.	<ul style="list-style-type: none"><li>• Is <b>"Auto Power Off"</b> set to <b>"5 Min"</b>? If no button is pressed for about 5 minutes, the camcorder is automatically turned off (<b>"Auto Power Off"</b>). To disable this option, change the setting of <b>"Auto Power Off"</b> to <b>"Off."</b> ➔page 81</li><li>• The battery is almost exhausted. Charge the battery or replace it with a charged one.</li></ul>
Power cannot be turned off.	<ul style="list-style-type: none"><li>• Remove the battery or unplug the AC power adaptor, and connect the power supply to the camcorder again before turning it on.</li></ul>
The battery is quickly discharged.	<ul style="list-style-type: none"><li>• The ambient, external temperature is too low.</li><li>• The battery is not fully charged. Charge the battery again.</li><li>• The battery has reached the end of its lifespan and cannot be recharged. Use another battery.</li></ul>

## Display

Symptom	Explanation/Solution
The TV screen or LCD display has distorted images or has stripes at the top/bottom or on the left/right.	<ul style="list-style-type: none"><li>• This can occur when recording or viewing a 16:9-ratio image on a 4:3-ratio TV, or vice versa. For more details, see the display specification. ➔page 106</li></ul>
Unknown image appears on the LCD screen.	<ul style="list-style-type: none"><li>• The camcorder is in Demo mode. If you do not want to see Demo images, change the setting <b>"Demo"</b> to <b>"Off."</b> ➔page 88</li></ul>
Unknown indicator appears on the screen.	<ul style="list-style-type: none"><li>• A warning indicator or message appears on the screen. ➔pages 117~120</li></ul>
The afterimage remains on the LCD screen.	<ul style="list-style-type: none"><li>• This occurs if you disconnect the AC power adaptor or remove the battery before turning the power off.</li></ul>
The image on the LCD screen looks dark.	<ul style="list-style-type: none"><li>• Ambient light too bright. Adjust the brightness and angle of LCD.</li></ul>

# troubleshooting

## Recording

Symptom	Explanation/Solution
Pressing the <b>Recording start/stop</b> button does not start recording.	<ul style="list-style-type: none"> <li>Press the <b>MODE</b> button to set the record mode. ➡ page 23</li> <li>There is not enough free space to record on the storage media.</li> <li>Check if memory card is not inserted or write-protect tab is set to lock.</li> </ul>
The actual recording time is less than the estimated recording time.	<ul style="list-style-type: none"> <li>The estimated recording time may vary depending on content and features used.</li> <li>When you record an object that moves fast, the actual recording time may be shortened.</li> </ul>
The recording stops automatically.	<ul style="list-style-type: none"> <li>There is no more free space for recording on the storage media. Back up important files to your PC and format the storage media or delete the unnecessary files.</li> <li>If you make recordings or delete files frequently, the performance of the storage media deteriorates. Format the storage media again.</li> <li>If you use a memory card with low writing speed, the camcorder automatically stops recording the videos and the corresponding message appears on the LCD screen.</li> </ul>
When recording a subject illuminated by bright light, a vertical line appears.	<ul style="list-style-type: none"> <li>This is not a malfunction.</li> </ul>
When the screen is exposed to direct sunlight during recording, the screen becomes red or black for an instant.	<ul style="list-style-type: none"> <li>This is not a malfunction.</li> </ul>
During recording, the date/time does not display.	<ul style="list-style-type: none"> <li><b>“Date/Time Display”</b> is set to <b>“Off.”</b> Set the <b>“Date/Time Display”</b> to On. ➡ page 78</li> </ul>
You cannot record a photo image.	<ul style="list-style-type: none"> <li>Set your camcorder to the record mode. ➡ page 23</li> <li>Release the lock on the write-protection tab of the memory card if any.</li> <li>The storage media is full. Use a new memory card or format the storage media. ➡ page 75 Or remove unnecessary images. ➡ page 97</li> </ul>
You don't hear the shutter sound when you record a photo image.	<ul style="list-style-type: none"> <li>Set <b>“Shutter Sound”</b> to <b>“On.”</b></li> <li>During dual recording, the Shutter Sound is off.</li> </ul>
You don't hear the beep sound.	<ul style="list-style-type: none"> <li>Set <b>“Beep Sound”</b> to <b>“On.”</b></li> <li>Beep sound is temporally off while recording videos.</li> </ul>

## Recording

Symptom	Explanation/Solution
There is a time difference between the point where you press the <b>Recording start/stop</b> button and the point where the recorded video starts/stops.	<ul style="list-style-type: none"><li>On your camcorder, there may be a slight time delay between the point when you press the <b>Recording start/stop</b> button and the actual point where the recorded video starts/stops. This is not an error.</li></ul>
Horizontal stripes appear on the images.	<ul style="list-style-type: none"><li>This occurs when recording images under a fluorescent lamp, sodium lamp, or mercury lamp. This is not a malfunction.</li></ul>

## Storage Media

Symptom	Explanation/Solution
Memory card functions do not operate.	<ul style="list-style-type: none"><li>Insert a memory card into your camcorder properly. ➡ page 28</li><li>If you use a memory card formatted on a computer, format it again directly on your camcorder. ➡ page 75</li></ul>
Image cannot be moved or deleted.	<ul style="list-style-type: none"><li>Release the lock on the write-protect tab of the memory card (SDHC/SD memory card), if any. ➡ page 29</li><li>You cannot move or delete protected images. Release the protection of the image on the storage media. ➡ page 96</li></ul>
You cannot format the memory card.	<ul style="list-style-type: none"><li>Release the lock on the write-protect tab of the memory card (SDHC/SD memory card), if any. ➡ page 29</li><li>The memory card is not supported on your camcorder or the card has some problems.</li></ul>
The data file name is not indicated correctly.	<ul style="list-style-type: none"><li>The file may be corrupted.</li><li>The file format is not supported by your camcorder.</li><li>Only the file name is displayed if the directory structure complies with the international standard.</li></ul>

# troubleshooting

## Adjusting the image during recording

Symptom	Explanation/Solution
Focus does not adjust automatically.	<ul style="list-style-type: none"><li>• Set <b>"Focus"</b> to <b>"Auto."</b> ➡page 60</li><li>• The recording conditions are not suitable for auto focus. Adjust the focus manually. ➡page 60</li><li>• The lens is dusty on the surface. Clear the lens and check the focus.</li><li>• Recording is being made in a dark location. Use a light to brighten the area.</li></ul>
The image appears too bright, flickers, or changes color.	<ul style="list-style-type: none"><li>• This may occur when you make a recording under a fluorescent sodium, or mercury lamp. Cancel <b>"tSCENE"</b> to avoid or minimize this phenomenon. ➡page 53</li></ul>
Image's color balance is not natural.	<ul style="list-style-type: none"><li>• White balance adjustment is required. Adjust to the proper <b>"White Balance."</b> ➡page 56</li></ul>
A subject passing rapidly through a scene appears distorted.	<ul style="list-style-type: none"><li>• This is called the focal plane phenomenon. This is not a malfunction. Because of the way the image device (CMOS sensor) reads out video signals, the subject passing through the frame rapidly may appear to bend, depending on the recording condition.</li></ul>

## Playback on your camcorder

Symptom	Explanation/Solution
Playback (play/pause) function does not work.	<ul style="list-style-type: none"><li>• Image files recorded using another device may not be played on your camcorder.</li><li>• Check the the memory card compatibility. ➡page 29</li></ul>
Photo images stored on a storage media are not displayed in the actual size.	<ul style="list-style-type: none"><li>• Photo images recorded on other devices may not appear in their actual size. This is not an error.</li></ul>
Playback is interrupted unexpectedly.	<ul style="list-style-type: none"><li>• Check if the AC power adaptor or battery back is properly connected and secure.</li></ul>

## Playback on other devices (TV, etc.)

Symptom	Explanation/Solution
You cannot view the image or hear the sound from the connected device.	<ul style="list-style-type: none"><li>• Connect the audio of the component/AV cable to your camcorder or connected device (TV, HD recorder, etc.). (Red color- right, White color- left)</li><li>• The connection cable (component/AV cable) is not connected properly. Make sure that the connection cable is connected to the proper jack. ➡pages 103~104</li><li>• When you are using the component/AV cable, make sure the red and white plugs of your component/AV cable are connected. ➡pages 103~104</li><li>• This camcorder does not support the audio output signal when the camcorder is connected with TV in the record mode. The audio output signal is supported only if the camcorder is connected in the video playback mode. This is not an error.</li></ul>
The image appears distorted on a TV.	<ul style="list-style-type: none"><li>• This phenomenon is caused by connecting to a TV with 4:3 aspect ratio.</li></ul>
You cannot view the image or hear the sound from a TV connected using the HDMI cable.	<ul style="list-style-type: none"><li>• Images will not be output from the HDMI jack if the material is copyright protected.</li></ul>

## Connecting/Dubbing with other devices (Recorder, PC, Printer, etc.)

Symptom	Explanation/Solution
You cannot dub correctly using the HDMI cable.	<ul style="list-style-type: none"><li>• You cannot dub images using the HDMI cable.</li></ul>
You cannot dub correctly using the component/AV cable.	<ul style="list-style-type: none"><li>• The component/AV cable is not connected properly. Make sure that the component/AV cable is connected to the proper jack, i.e. to the input jack of the device used for dubbing images from your camcorder. ➡page 107</li></ul>
Your PictBridge printer can not print images from your camcorder.	<ul style="list-style-type: none"><li>• Your printer may not print images edited on a computer or recorded using other devices. This is not an error.</li></ul>

# troubleshooting

## Connecting to a computer

Symptom	Explanation/Solution
Your computer does not recognize your camcorder.	<ul style="list-style-type: none"><li>• Disconnect the USB cable from the computer and camcorder, restart the computer, then connect it again correctly.</li></ul>
Cannot play a video file properly on a PC.	<ul style="list-style-type: none"><li>• A video codec is needed to play the file recorded on your camcorder. Install the software provided with your camcorder. ➡page 114</li><li>• Make sure you insert the connector in the correct direction, and connect the USB cable to the USB jack on your camcorder firmly.</li><li>• Disconnect the cable from the computer and camcorder. Then, restart the computer. Connect it again properly.</li><li>• To play back an HD video file, a computer with better specifications is required. View the recommended specification. ➡page 109</li></ul>
Intelli-studio does not function properly.	<ul style="list-style-type: none"><li>• Exit the Intelli-studio application, and restart the Windows computer.</li></ul>
Intelli-studio does not start.	<ul style="list-style-type: none"><li>• Set PC Software to On in the Settings menu or install Intelli-studio in the computer. ➡pages 83, 114</li></ul>
Your computer is not playing videos, images, or sound located on your camcorder properly.	<ul style="list-style-type: none"><li>• Video playback or sound may stop temporarily depending on your computer. The video or sound copied to your computer is not affected.</li><li>• If your camcorder is connected to a computer that does not support Hi-speed USB (USB2.0), the image or sound may not be played correctly. The images and sound copied to your computer are not affected.</li></ul>
The playback screen is paused or distorted.	<ul style="list-style-type: none"><li>• Check the system requirements to play a video.</li><li>• Exit all other applications running on the current computer.</li><li>• If a recorded video is played on your camcorder connected to a computer, the image may not play smoothly, depending on the transfer speed. Please copy the file to your PC, and then play it back.</li></ul>

## Overall operations

Symptom	Explanation/Solution
The date and time are incorrect.	<ul style="list-style-type: none"> <li>Has the camcorder been left unused for a long period of time? The backup built-in rechargeable battery may be discharged. → page 25</li> </ul>

## Menu items that cannot be used at the same time

Symptom	Cannot use	Because of the following settings
Menu items are grayed out	"iSCENE"	"Aperture : Manual," "Shutter : Manual"
	"Aperture: Manual"	"Shutter : Manual," "iSCENE"
	"Shutter: Manual"	"Aperture : Manual," "iSCENE"
	"Video Resolution," "Video Quality," "Fader"	"Time Lapse REC"
	"Photo Resolution"	"Cont. Shot"

- You cannot select grayed menu items in the current recording/playback mode.
- There are some functions you cannot activate simultaneously.  
The list shown above shows examples of unworkable combinations of functions and menu items.
- Menu and Quick menu cannot be used in Smart Auto mode.
- The following functions cannot be used during video recording:  
"Video Resolution," "Video Quality," "Photo Resolution," "Photo Sharpness," "Fader,"  
"Cont.Shot," "Digital Zoom," "Self Timer," "Time Lapse REC."
- The following functions are automatically set to Off or Auto mode in the Smart Auto mode:  
"iSCENE," "Shutter," "Digital Effect," "Tele Macro", etc.
- In the Smart Auto mode, your camcorder automatically chooses the appropriate camcorder settings based on a detected type of scene. Most settings are automatically adjusted in Smart Auto mode. To set or adjust functions on your own, release the Smart Auto mode first.

# maintenance & additional information

## MAINTENANCE

Your camcorder is a product of superior design and craftsmanship and should be treated with care.

The suggestions below will help you fulfill any warranty obligations and allow you to enjoy this product for many years.

- For safekeeping of the camcorder, turn off the camcorder.
  - Remove the battery and AC power adaptor. ➡ pages 16, 20
  - Remove the memory card. ➡ page 28

### Cautions when storing

- **Do not leave the camcorder in a place where the temperature is very high for a long period of time:**  
The temperature inside a closed vehicle or trunk can become very high in a hot weather. If you leave the camcorder in such a place, it could malfunction or the case could be damaged. Do not expose the camcorder to a direct sunlight or place it near a heater.
- **Do not store the camcorder in a place where the humidity is high or in a dusty place:**  
Dust entering the camcorder could cause a malfunction. If humidity is high, the lens could become moldy, and the camcorder could become inoperative. It is recommended that you put the camcorder in a box together with a small silica bag when storing it in a closet, etc.
- **Do not store the camcorder in a place subject to strong magnetism or intense vibration:**  
This could cause malfunctions.
- **Detach the battery from the camcorder and store it in a cool place:**  
Leaving the battery attached or storing it at a high temperature could shorten its life.

### Cleaning the camcorder

**Before cleaning, turn off the camcorder and remove the battery and AC power adaptor.**

- **To clean the exterior**
  - Wipe gently with a soft dry cloth. Do not apply excessive force when cleaning. Gently rub the surface.
  - Do not use benzene or thinner to clean the camcorder. The exterior coating could peel off or the case could deteriorate.
- **To clean the LCD screen**  
Wipe very gently with a soft dry cloth. Be careful not to damage the screen.
- **To clean the lens**  
Use an optional air blower to blow out dirt and other small objects. Do not wipe the lens with cloth or your fingers.  
If necessary, wipe gently with lens paper or tissue.
  - Mold may form if the lens is left dirty.
  - If the lens looks dim, turn off the camcorder and leave it off for about 1 hour.



## ADDITIONAL INFORMATION

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### Storage media

- **Be sure to follow the guidelines below to prevent corruption or damage to your recorded data.**
  - Do not bend or drop the storage media, or subject it to strong pressure, jolts or vibrations.
  - Do not splash the storage media with water.
  - Do not use, place or store the storage media in locations that are exposed to a strong static electricity or electrical noise.
  - Do not turn off the camcorder power or remove the battery or AC power adaptor during recording, playback, or when accessing the storage media.
  - Do not bring the storage media near to objects that have a strong magnetic field or that emit strong electromagnetic waves.
  - Do not store the storage media in locations with high temperature or high humidity.
  - Do not touch the metal parts.
- **Copy the recorded files to your PC. Samsung is not responsible for any lost data. (We recommend that you copy the data from your PC to other media for storage.)**
- **A malfunction may cause the storage media to operate improperly. Samsung will not provide any compensation for any lost contents.**

### LCD screen

**Before cleaning, turn off the camcorder and remove the battery and AC power adaptor.**

- **To maintain the LCD Screen:**
  - Do not press the screen hard, strike it, or knock it on anything.
  - Do not set the camcorder down with the LCD screen facing the bottom.
- **To prolong its service life, do not rub the LCD screen with a coarse cloth.**
- **Be aware of the following LCD screen phenomena. They are not malfunctions.**
  - When you use the camcorder, the surface around the LCD screen may heat up.
  - If you leave the power on for a long time, the surface around the LCD screen becomes hot.

# maintenance & additional information

## USING YOUR CAMCORDER ABROAD

- Each country or region has its own electrical and color systems.
- Before using your camcorder abroad, check the following items.

### Power sources

The provided AC adaptor features automatic AC 100 V to 240 V voltage selection. You can power your camcorder in any country or region using the supplied AC power adaptor if that country or region provides 100 V to 240 V, 50 or 60 Hz electrical current. Use a commercially available AC plug adaptor, if necessary, depending on the design of the wall outlet.

### Viewing videos recorded with HD (high definition) image quality on a TV

To view the images with the same HD (high definition) image quality as that of the recorded images on a TV, you need an **NTSC**-based, 1080/60i compatible TV (or monitor) with an HDMI or component/AV cable connected.

### Viewing videos recorded with SD (standard definition) image quality on a TV

To view images recorded in SD (standard definition) image resolution, you need an **NTSC** based TV with audio/video or component input jacks and a component/AV cable connected.

### On TV color systems

Your camcorder is an **NTSC**-system-based camcorder. If you want to view your recordings on a TV or to copy them to an external device, you must have an NTSC-based TV or external device with the appropriate Audio/Video jacks. If you do not have an **NTSC**-based TV or device, you may need to use a separate video format transcoder (NTSC to PAL format converter).



The format transcoder is not provided by Samsung.

### NTSC-compatible countries/regions

Bahamas, Canada, Central America, Japan, Korea, Mexico, Philippines, Taiwan, United States of America, etc.

### PAL-compatible countries/regions

Australia, Austria, Belgium, Bulgaria, China, CIS, Czech Republic, Denmark, Egypt, Finland, France, Germany, Greece, Great Britain, Holland, Hong Kong, Hungary, India, Iran, Iraq, Kuwait, Libya, Malaysia, Mauritius, Norway, Romania, Saudi Arabia, Singapore, Slovak Republic, Spain, Sweden, Switzerland, Syria, Thailand, Tunisia, etc.



You can make recordings with your camcorder and view pictures on the LCD screen anywhere in the world.

# specifications

<b>Model name</b>	<b>HMX-H200BN/HMX-H200SN/HMX-H200LN/HMX-H200RN</b> <b>HMX-H203BN/HMX-H203SN/HMX-H203LN/HMX-H203RN</b> <b>HMX-H204BN/HMX-H204SN/HMX-H204LN/HMX-H204RN</b> <b>HMX-H205BN/HMX-H205SN/HMX-H205LN/HMX-H205RN</b> <b>HMX-H220BN/HMX-H220SN/HMX-H220LN/HMX-H220RN</b>	
<b>System</b>	<b>Video signal</b> <b>Picture compression format</b> <b>Audio compression format</b> <b>Image device</b> <b>Lens</b>  <b>Focal length</b> <b>Filter diameter</b>	NTSC H.264 (MPEG-4.AVC) AAC (Advanced Audio Coding) 1/4.1", 3.32M Pixel CMOS F1.8 ~ F3.7, 20x optical zoom, 200x digital zoom 3.2mm ~ 64mm Ø 34
<b>LCD screen</b>	<b>Size/dot number</b> <b>LCD screen method</b>	2.7" Wide Touch LCD (960x240) / 230k TFT LCD
<b>Connectors</b>	<b>Composite output</b> <b>Component output</b>  <b>HDMI output</b> <b>Audio output</b> <b>USB output</b>	1Vp-p (75 Ω terminated) Y: 1 Vp-p, 75 Ω Pb/Pb: 0.350Vp-p, 75 Ω C type connector -7.5 dBs (600 Ω terminated) mini USB-B type (USB2.0 High Speed)
<b>General</b>	<b>Power source</b> <b>Power source type</b>  <b>Power consumption (Recording)</b> <b>Operating temperature</b> <b>Storage temperature</b> <b>Storage media</b>  <b>External dimensions (WxHxD)</b> <b>Weight</b>  <b>Internal MIC</b>	DC 5 V, Lithium Ion battery pack 3.7 V Lithium Ion battery pack, Power supply (100 V ~ 240 V) 50/60 Hz 3.2W (LCD on)  0 °C ~ 40 °C (32 °F ~ 104 °F) -20 °C ~ 60 °C (-4 °F ~ 140 °F) Internal memory (SSD) (HMX-H203/H204/H205 only), Memory card (SD/SDHC) (optional) Approx. 58.5 mm (2.3 inches) x 59.3 mm (2.33 inches) x 111.65 mm (4.4 inches) Approx. 283 g (0.62 lb, 9.98 oz) (Except for Lithium Ion battery) Omni-directional stereo microphone

※ The technical specifications and design may be changed without notice.

# warranty

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## **SAMSUNG LIMITED WARRANTY**

SAMSUNG Electronics America Inc. (SEA), warrants that this product is free from defective material and workmanship.

SEA further warrants that if product fails to operate properly within the specified warranty period and the failure is due to improper workmanship or defective material, SEA will repair or replace the product at its option.

All warranty repairs must be performed by a SEA authorized service center. The name and address of the location nearest you can be obtained by calling toll free: 1-800 SAMSUNG (1-800-726-7864).

Labor

90 days carry-in

Parts

1 year

On carry-in models, transportation to and from the service center is the customer's responsibility.

The original dated sales receipt must be retained by the customer and is the only acceptable proof of purchase.

It must be presented to the authorized service center.

## **EXCLUSIONS (WHAT IS NOT COVERED)**

This warranty does not cover damage due to accident, fire, flood and/or other acts of God; misuse, incorrect line voltage, improper installation, improper or unauthorized repairs, commercial use, or damage that occurs in shipping.

Exterior and interior finish, lamps, and glass are not covered under this warranty.

Customer adjustments which are explained in the instruction manual are not covered under the terms of this warranty.

This warranty will automatically be voided for any unit found with a missing or altered serial number. This warranty is valid only on products purchased in the United States and Puerto Rico.

Some States do not allow the exclusions or limitations of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.



COUNTRY	CALL	OR VISIT US ONLINE AT	WRITE
IN THE US	1-800-SAMSUNG (726-7864)	<a href="http://www.samsung.com">www.samsung.com</a>	Samsung Electronics America, Inc. 85 Challenger Road Ridgefield Park, NJ 07660-2112



### **RoHS compliant**

Our product complies with "The Restriction Of the use of certain Hazardous Substances in electrical and electronic equipment", and we do not use the 6 hazardous materials- Cadmium(Cd), Lead (Pb), Mercury (Hg), Hexavalent Chromium (Cr +6), Poly Brominated Biphenyls (PBBs), Poly Brominated Diphenyl Ethers(PBDEs)- in our products.